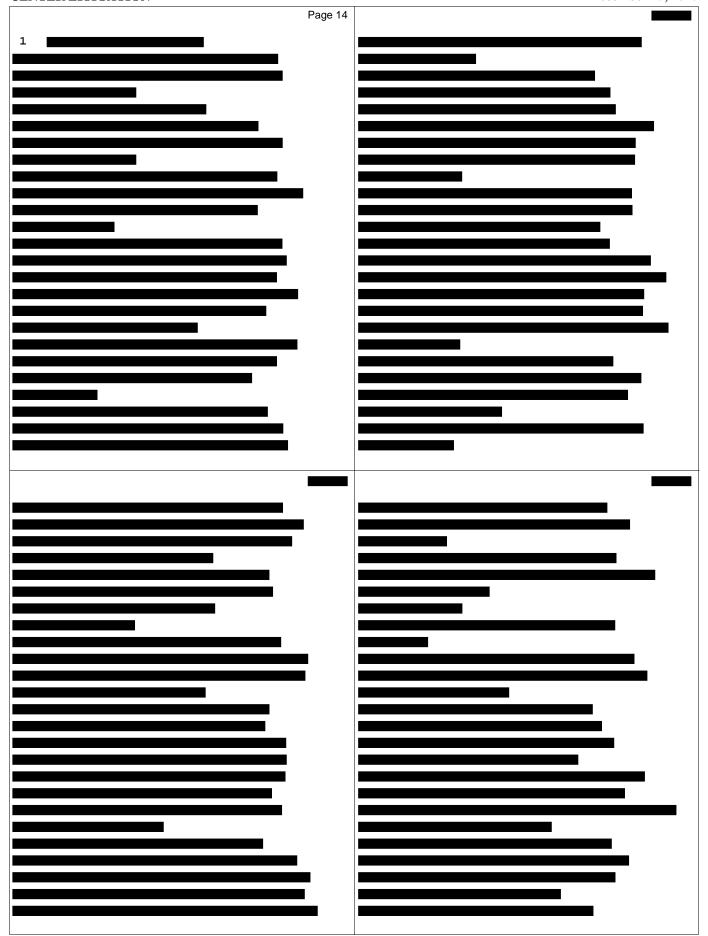
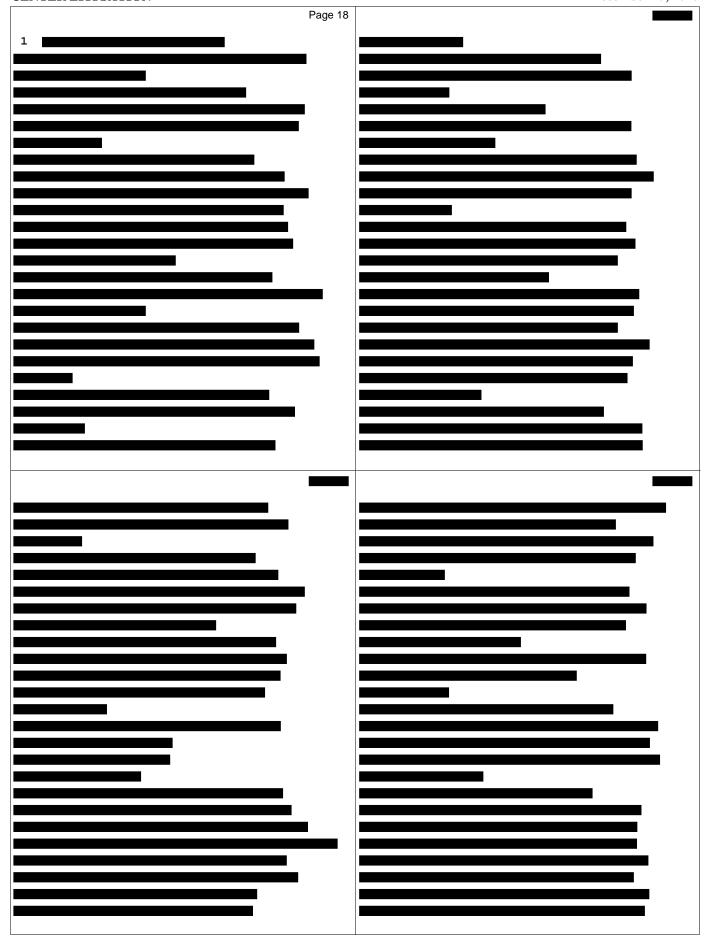
EXHIBIT E

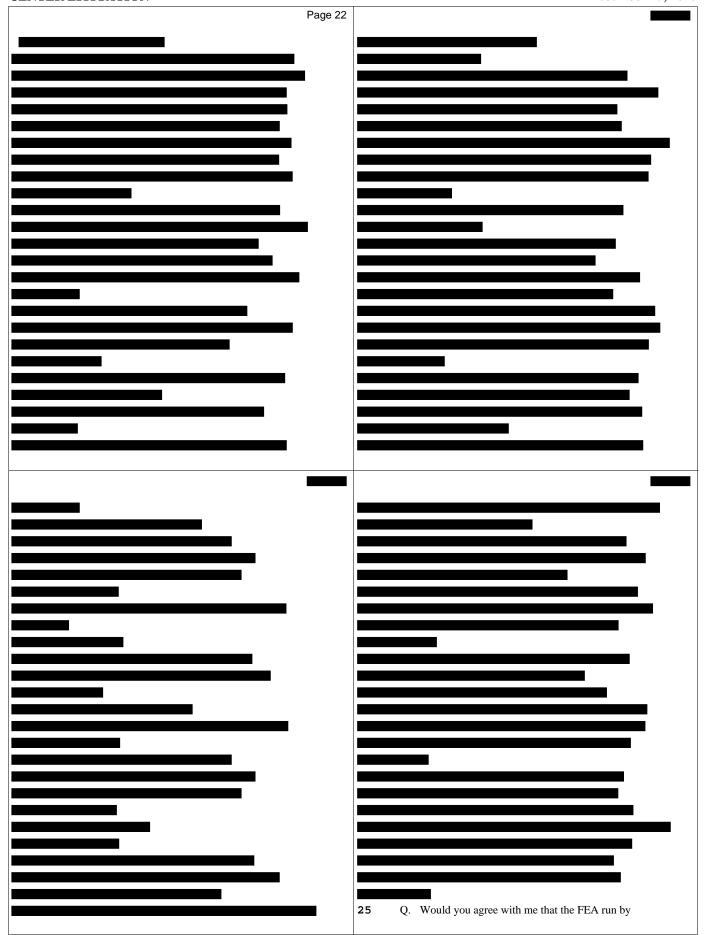
1	Page 2		Page 4
1	IN THE UNITED STATES DISTRICT COURT	1	APPEARANCES (Via videoconference)
2	NORTHERN DISTRICT OF CALIFORNIA	2	(12 12000012010100)
3	SAN FRANCISCO DIVISION	3	FOR THE PLAINTIFF AND INTERIM CLASS COUNSEL:
4	000	4	GIBBS LAW GROUP LLP BY: AMY M. ZEMAN, ESQ.
5		5	505 14th Street, Suite 1110
6	IN RE PACIFIC FERTILITY CENTER LITIGATION. No. 3:18-cv-01586-JSC	6	(510) 350-9700 amz@classlawgroup.com
7		7	FOR THE DEFENDANT CHART:
8		8	SWANSON, MARTIN & BELL, LLP
9		9	BY: JOHN J. DUFFY, ESQ.
10		10	330 N. Wabash, Suite 3300 Chicago, Illinois 60611 (312) 321-9100
11		11	jduffy@smbtrials.com
12		12	
13		13	Also Present: Philip Knowles, Videographer
14		14	000
15	VIDEOTAPED DEPOSITION of ANAND KASBEKAR,	15	
16	Ph.D., taken on behalf of Defendant, via Zoom	16	
17	videoconference, beginning at 10:04 a.m., December 15,	17	
18	2020, before CONNIE MARTIN DUNNE, RPR, Certified	18	
19	Shorthand Reporter No. 6245.	19	
20		20	
21		21	
22		22	
23		23	
24		25	
25		23	
	Page 3		Page 5
1	INDEX		•
2	EXAMINATION BY PAGE	1	PROCEEDINGS
3	MR. DUFFY 6	2	December 15, 2020
4		3 4	00o THE VIDEOGRAPHER: Good morning. My name is
5	00	_	THE VIDEOGRAFILER. Good morning. Wy name is
6		5	Philip Knowles, and I'm your host and videographer
		5	Philip Knowles, and I'm your host and videographer
7	EXHIBITS	6	associated with Barkley Court Reporters, located at 201
7 8	DEFENDANT'S DESCRIPTION PAGE		associated with Barkley Court Reporters, located at 201 California Street, Suite 375, in San Francisco,
	DEFENDANT'S DESCRIPTION PAGE 223 Failure Analysis of Chart MVE 808AF-GB 6 Cryopreservation Tank Pacific	6 7	associated with Barkley Court Reporters, located at 201
8	DEFENDANT'S DESCRIPTION PAGE 223 Failure Analysis of Chart MVE 808AF-GB 6	6 7 8	associated with Barkley Court Reporters, located at 201 California Street, Suite 375, in San Francisco, California 94111.
8 9	DEFENDANT'S DESCRIPTION PAGE 223 Failure Analysis of Chart MVE 808AF-GB 6 Cryopreservation Tank, Pacific Fertility Center Litigation, rebuttal report (20 pages)	6 7 8 9	associated with Barkley Court Reporters, located at 201 California Street, Suite 375, in San Francisco, California 94111. The date today is Tuesday, December 15th,
8 9 10	DEFENDANT'S DESCRIPTION PAGE 223 Failure Analysis of Chart MVE 808AF-GB 6 Cryopreservation Tank, Pacific Fertility Center Litigation, rebuttal	6 7 8 9	associated with Barkley Court Reporters, located at 201 California Street, Suite 375, in San Francisco, California 94111. The date today is Tuesday, December 15th, 2020, and the time is approximately 10:04 a.m., Pacific
8 9 10 11	DEFENDANT'S DESCRIPTION PAGE 223 Failure Analysis of Chart MVE 808AF-GB 6 Cryopreservation Tank, Pacific Fertility Center Litigation, rebuttal report (20 pages)	6 7 8 9 10 11	associated with Barkley Court Reporters, located at 201 California Street, Suite 375, in San Francisco, California 94111. The date today is Tuesday, December 15th, 2020, and the time is approximately 10:04 a.m., Pacific Standard Time, a.m.
8 9 10 11 12	DEFENDANT'S DESCRIPTION PAGE 223 Failure Analysis of Chart MVE 808AF-GB 6 Cryopreservation Tank, Pacific Fertility Center Litigation, rebuttal report (20 pages)	6 7 8 9 10 11 12	associated with Barkley Court Reporters, located at 201 California Street, Suite 375, in San Francisco, California 94111. The date today is Tuesday, December 15th, 2020, and the time is approximately 10:04 a.m., Pacific Standard Time, a.m. This deposition is taking place remotely via
8 9 10 11 12 13	DEFENDANT'S DESCRIPTION PAGE 223 Failure Analysis of Chart MVE 808AF-GB 6 Cryopreservation Tank, Pacific Fertility Center Litigation, rebuttal report (20 pages)	6 7 8 9 10 11 12 13	associated with Barkley Court Reporters, located at 201 California Street, Suite 375, in San Francisco, California 94111. The date today is Tuesday, December 15th, 2020, and the time is approximately 10:04 a.m., Pacific Standard Time, a.m. This deposition is taking place remotely via Zoom in the matter of The Pacific Fertility Center
8 9 10 11 12 13	DEFENDANT'S DESCRIPTION PAGE 223 Failure Analysis of Chart MVE 808AF-GB 6 Cryopreservation Tank, Pacific Fertility Center Litigation, rebuttal report (20 pages)	6 7 8 9 10 11 12 13 14	associated with Barkley Court Reporters, located at 201 California Street, Suite 375, in San Francisco, California 94111. The date today is Tuesday, December 15th, 2020, and the time is approximately 10:04 a.m., Pacific Standard Time, a.m. This deposition is taking place remotely via Zoom in the matter of The Pacific Fertility Center Litigation, with Case Number 3:18-cv-01586-JSC. This is the videotaped deposition of Dr. Anand Kasbekar, GB taken on behalf of Chart's counsel.
8 9 10 11 12 13 14 15 16	DEFENDANT'S DESCRIPTION PAGE 223 Failure Analysis of Chart MVE 808AF-GB 6 Cryopreservation Tank, Pacific Fertility Center Litigation, rebuttal report (20 pages)	6 7 8 9 10 11 12 13 14 15	associated with Barkley Court Reporters, located at 201 California Street, Suite 375, in San Francisco, California 94111. The date today is Tuesday, December 15th, 2020, and the time is approximately 10:04 a.m., Pacific Standard Time, a.m. This deposition is taking place remotely via Zoom in the matter of The Pacific Fertility Center Litigation, with Case Number 3:18-cv-01586-JSC. This is the videotaped deposition of Dr. Anand Kasbekar, GB taken on behalf of Chart's counsel. Will counsels for the parties please voice
8 9 10 11 12 13 14 15 16 17	DEFENDANT'S DESCRIPTION PAGE 223 Failure Analysis of Chart MVE 808AF-GB 6 Cryopreservation Tank, Pacific Fertility Center Litigation, rebuttal report (20 pages)	6 7 8 9 10 11 12 13 14 15 16 17	associated with Barkley Court Reporters, located at 201 California Street, Suite 375, in San Francisco, California 94111. The date today is Tuesday, December 15th, 2020, and the time is approximately 10:04 a.m., Pacific Standard Time, a.m. This deposition is taking place remotely via Zoom in the matter of The Pacific Fertility Center Litigation, with Case Number 3:18-cv-01586-JSC. This is the videotaped deposition of Dr. Anand Kasbekar, GB taken on behalf of Chart's counsel. Will counsels for the parties please voice can't speak right now. I'm sorry. Will counsel for the
8 9 10 11 12 13 14 15 16	DEFENDANT'S DESCRIPTION PAGE 223 Failure Analysis of Chart MVE 808AF-GB 6 Cryopreservation Tank, Pacific Fertility Center Litigation, rebuttal report (20 pages)	6 7 8 9 10 11 12 13 14 15 16 17 18	associated with Barkley Court Reporters, located at 201 California Street, Suite 375, in San Francisco, California 94111. The date today is Tuesday, December 15th, 2020, and the time is approximately 10:04 a.m., Pacific Standard Time, a.m. This deposition is taking place remotely via Zoom in the matter of The Pacific Fertility Center Litigation, with Case Number 3:18-cv-01586-JSC. This is the videotaped deposition of Dr. Anand Kasbekar, GB taken on behalf of Chart's counsel. Will counsels for the parties please voice can't speak right now. I'm sorry. Will counsel for the parties please voice identify themselves now?
8 9 10 11 12 13 14 15 16 17 18 19 20	DEFENDANT'S DESCRIPTION PAGE 223 Failure Analysis of Chart MVE 808AF-GB 6 Cryopreservation Tank, Pacific Fertility Center Litigation, rebuttal report (20 pages)	6 7 8 9 10 11 12 13 14 15 16 17 18 19 20	associated with Barkley Court Reporters, located at 201 California Street, Suite 375, in San Francisco, California 94111. The date today is Tuesday, December 15th, 2020, and the time is approximately 10:04 a.m., Pacific Standard Time, a.m. This deposition is taking place remotely via Zoom in the matter of The Pacific Fertility Center Litigation, with Case Number 3:18-cv-01586-JSC. This is the videotaped deposition of Dr. Anand Kasbekar, GB taken on behalf of Chart's counsel. Will counsels for the parties please voice can't speak right now. I'm sorry. Will counsel for the parties please voice identify themselves now? MS. ZEMAN: Amy Zeman on behalf of the
8 9 10 11 12 13 14 15 16 17 18 19 20 21	DEFENDANT'S DESCRIPTION PAGE 223 Failure Analysis of Chart MVE 808AF-GB 6 Cryopreservation Tank, Pacific Fertility Center Litigation, rebuttal report (20 pages)	6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21	associated with Barkley Court Reporters, located at 201 California Street, Suite 375, in San Francisco, California 94111. The date today is Tuesday, December 15th, 2020, and the time is approximately 10:04 a.m., Pacific Standard Time, a.m. This deposition is taking place remotely via Zoom in the matter of The Pacific Fertility Center Litigation, with Case Number 3:18-cv-01586-JSC. This is the videotaped deposition of Dr. Anand Kasbekar, GB taken on behalf of Chart's counsel. Will counsels for the parties please voice can't speak right now. I'm sorry. Will counsel for the parties please voice identify themselves now? MS. ZEMAN: Amy Zeman on behalf of the plaintiff.
8 9 10 11 12 13 14 15 16 17 18 19 20	DEFENDANT'S DESCRIPTION PAGE 223 Failure Analysis of Chart MVE 808AF-GB 6 Cryopreservation Tank, Pacific Fertility Center Litigation, rebuttal report (20 pages)	6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22	associated with Barkley Court Reporters, located at 201 California Street, Suite 375, in San Francisco, California 94111. The date today is Tuesday, December 15th, 2020, and the time is approximately 10:04 a.m., Pacific Standard Time, a.m. This deposition is taking place remotely via Zoom in the matter of The Pacific Fertility Center Litigation, with Case Number 3:18-cv-01586-JSC. This is the videotaped deposition of Dr. Anand Kasbekar, GB taken on behalf of Chart's counsel. Will counsels for the parties please voice can't speak right now. I'm sorry. Will counsel for the parties please voice identify themselves now? MS. ZEMAN: Amy Zeman on behalf of the plaintiff. MR. DUFFY: John Duffy on behalf of Chart.
8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23	DEFENDANT'S DESCRIPTION PAGE 223 Failure Analysis of Chart MVE 808AF-GB 6 Cryopreservation Tank, Pacific Fertility Center Litigation, rebuttal report (20 pages)	6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23	associated with Barkley Court Reporters, located at 201 California Street, Suite 375, in San Francisco, California 94111. The date today is Tuesday, December 15th, 2020, and the time is approximately 10:04 a.m., Pacific Standard Time, a.m. This deposition is taking place remotely via Zoom in the matter of The Pacific Fertility Center Litigation, with Case Number 3:18-cv-01586-JSC. This is the videotaped deposition of Dr. Anand Kasbekar, GB taken on behalf of Chart's counsel. Will counsels for the parties please voice can't speak right now. I'm sorry. Will counsel for the parties please voice identify themselves now? MS. ZEMAN: Amy Zeman on behalf of Chart. MR. DUFFY: John Duffy on behalf of Chart. THE VIDEOGRAPHER: Thank you, counsel.
8 9 10 11 12 13 14 15 16 17 18 19 20 21	DEFENDANT'S DESCRIPTION PAGE 223 Failure Analysis of Chart MVE 808AF-GB 6 Cryopreservation Tank, Pacific Fertility Center Litigation, rebuttal report (20 pages)	6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22	associated with Barkley Court Reporters, located at 201 California Street, Suite 375, in San Francisco, California 94111. The date today is Tuesday, December 15th, 2020, and the time is approximately 10:04 a.m., Pacific Standard Time, a.m. This deposition is taking place remotely via Zoom in the matter of The Pacific Fertility Center Litigation, with Case Number 3:18-cv-01586-JSC. This is the videotaped deposition of Dr. Anand Kasbekar, GB taken on behalf of Chart's counsel. Will counsels for the parties please voice can't speak right now. I'm sorry. Will counsel for the parties please voice identify themselves now? MS. ZEMAN: Amy Zeman on behalf of the plaintiff. MR. DUFFY: John Duffy on behalf of Chart.

	Page 6		Page 8
1	BE IT REMEMBERED that set on Tuesday,	1	them. We were using their products, and they were
2	December 15, 2020, commencing at the hour of 10:04 a.m.,	2	supporting us with regard to our defense contracts, and
3	taken remotely before me, CONNIE MARTIN DUNNE, RPR, CSR	3	I just had a longstanding relationship with them.
4	No. 6245, a Certified Shorthand Reporter, remotely	4	Q. Did who specifically did you work with at
5	appeared	5	Altair?
6	ANAND KASBEKAR, M.D.,	6	A. I worked with a individual by the name of
7	having been called as a witness by the Defendant, who	7	Noreen Gilbertsen.
8	having been sworn or affirmed by me to tell the truth,	8	Q. And did you provide the inputs for
9	the whole truth and nothing but the truth, was thereupon	9	Ms. Gilbertsen to do the FEA?
10	examined and testified as hereinafter set forth:	10	A. I did.
11	000	11	Q. Did anyone help you with that?
12		12	A. No. It was primarily me and Ms. Gilbertsen
13	(DEFENDANT'S EXHIBIT 223 WAS	13	working on it.
14	MARKED FOR IDENTIFICATION.)	14	Q. I guess my question was a little different.
15	EXAMINATION	15	For the inputs that you gave to
16	BY MR. DUFFY:	16	Ms. Gilbertsen, did you alone decide the inputs?
17	Q. Good morning, Dr. Kasbekar. Nice to see you	17	A. Yes. I mean, absolutely. I didn't work with
18	again.	18	anybody else on that.
19	A. Same, Mr. Duffy.	19	Q. Okay. And what is Ms. Gilbertson's education?
20	Q. I have gone ahead and marked as Exhibit 223 a	20	Do you know?
21	copy of your rebuttal report, and we put that in the	21	A. She has a bachelor's and master's in
22	chat feature, and do you have that open in front of you	22	engineering and a Ph.D. in structural mechanics and
23	for reference?	23	30 years of experience working in the area of finite
24	A. I do.	24	element analysis.
25	Q. As part of the work for your rebuttal, you did	25	Q. Does Ms. Gilbertsen have any training in
			D 0
	Page 7		Page 9
1	a finite element analysis; is that right?	1	cryogenic engineering?
2	a finite element analysis; is that right? A. That's correct.	2	cryogenic engineering? A. I don't believe so.
2	a finite element analysis; is that right?A. That's correct.Q. At the time of your last deposition, you did	2	cryogenic engineering? A. I don't believe so. Q. During your last deposition, I believe you
2 3 4	 a finite element analysis; is that right? A. That's correct. Q. At the time of your last deposition, you did not have a license for the software that would allow you 	2 3 4	cryogenic engineering? A. I don't believe so. Q. During your last deposition, I believe you told me that you stopped doing FEAs around the time you
2 3 4 5	a finite element analysis; is that right? A. That's correct. Q. At the time of your last deposition, you did not have a license for the software that would allow you to run a finite element analysis; correct?	2 3 4 5	cryogenic engineering? A. I don't believe so. Q. During your last deposition, I believe you told me that you stopped doing FEAs around the time you stopped doing work for the Department of Defense; is
2 3 4 5 6	 a finite element analysis; is that right? A. That's correct. Q. At the time of your last deposition, you did not have a license for the software that would allow you to run a finite element analysis; correct? A. That's correct. 	2 3 4 5 6	cryogenic engineering? A. I don't believe so. Q. During your last deposition, I believe you told me that you stopped doing FEAs around the time you stopped doing work for the Department of Defense; is that is that about right?
2 3 4 5	a finite element analysis; is that right? A. That's correct. Q. At the time of your last deposition, you did not have a license for the software that would allow you to run a finite element analysis; correct? A. That's correct. Q. Did you acquire a license so that you could	2 3 4 5	cryogenic engineering? A. I don't believe so. Q. During your last deposition, I believe you told me that you stopped doing FEAs around the time you stopped doing work for the Department of Defense; is that is that about right? A. I I don't know exactly what I said, but
2 3 4 5 6 7 8	a finite element analysis; is that right? A. That's correct. Q. At the time of your last deposition, you did not have a license for the software that would allow you to run a finite element analysis; correct? A. That's correct. Q. Did you acquire a license so that you could run that analysis?	2 3 4 5 6 7 8	cryogenic engineering? A. I don't believe so. Q. During your last deposition, I believe you told me that you stopped doing FEAs around the time you stopped doing work for the Department of Defense; is that is that about right? A. I I don't know exactly what I said, but it's something we didn't I stopped maintaining our
2 3 4 5 6 7	a finite element analysis; is that right? A. That's correct. Q. At the time of your last deposition, you did not have a license for the software that would allow you to run a finite element analysis; correct? A. That's correct. Q. Did you acquire a license so that you could	2 3 4 5 6 7	cryogenic engineering? A. I don't believe so. Q. During your last deposition, I believe you told me that you stopped doing FEAs around the time you stopped doing work for the Department of Defense; is that is that about right? A. I I don't know exactly what I said, but it's something we didn't I stopped maintaining our software licenses because we had some pretty large
2 3 4 5 6 7 8 9	a finite element analysis; is that right? A. That's correct. Q. At the time of your last deposition, you did not have a license for the software that would allow you to run a finite element analysis; correct? A. That's correct. Q. Did you acquire a license so that you could run that analysis? A. No, I did not. I worked with Altair Computing to run the analysis.	2 3 4 5 6 7 8	cryogenic engineering? A. I don't believe so. Q. During your last deposition, I believe you told me that you stopped doing FEAs around the time you stopped doing work for the Department of Defense; is that is that about right? A. I I don't know exactly what I said, but it's something we didn't I stopped maintaining our software licenses because we had some pretty large domineer our complex domineer software code licenses
2 3 4 5 6 7 8 9 10	a finite element analysis; is that right? A. That's correct. Q. At the time of your last deposition, you did not have a license for the software that would allow you to run a finite element analysis; correct? A. That's correct. Q. Did you acquire a license so that you could run that analysis? A. No, I did not. I worked with Altair Computing to run the analysis. Q. And if you would tell me who Altair Computing	2 3 4 5 6 7 8 9 10	cryogenic engineering? A. I don't believe so. Q. During your last deposition, I believe you told me that you stopped doing FEAs around the time you stopped doing work for the Department of Defense; is that is that about right? A. I I don't know exactly what I said, but it's something we didn't I stopped maintaining our software licenses because we had some pretty large domineer our complex domineer software code licenses and meshing licenses sometime shortly after we completed
2 3 4 5 6 7 8 9 10 11	a finite element analysis; is that right? A. That's correct. Q. At the time of your last deposition, you did not have a license for the software that would allow you to run a finite element analysis; correct? A. That's correct. Q. Did you acquire a license so that you could run that analysis? A. No, I did not. I worked with Altair Computing to run the analysis. Q. And if you would tell me who Altair Computing is, I would appreciate it.	2 3 4 5 6 7 8 9 10 11	cryogenic engineering? A. I don't believe so. Q. During your last deposition, I believe you told me that you stopped doing FEAs around the time you stopped doing work for the Department of Defense; is that is that about right? A. I I don't know exactly what I said, but it's something we didn't I stopped maintaining our software licenses because we had some pretty large domineer our complex domineer software code licenses and meshing licenses sometime shortly after we completed all of our work for the Department of Defense, and then
2 3 4 5 6 7 8 9 10 11 12	a finite element analysis; is that right? A. That's correct. Q. At the time of your last deposition, you did not have a license for the software that would allow you to run a finite element analysis; correct? A. That's correct. Q. Did you acquire a license so that you could run that analysis? A. No, I did not. I worked with Altair Computing to run the analysis. Q. And if you would tell me who Altair Computing is, I would appreciate it. A. Altair Computing is a company based out of	2 3 4 5 6 7 8 9 10 11 12	cryogenic engineering? A. I don't believe so. Q. During your last deposition, I believe you told me that you stopped doing FEAs around the time you stopped doing work for the Department of Defense; is that is that about right? A. I I don't know exactly what I said, but it's something we didn't I stopped maintaining our software licenses because we had some pretty large domineer our complex domineer software code licenses and meshing licenses sometime shortly after we completed all of our work for the Department of Defense, and then I began utilizing Altair essentially on forensic
2 3 4 5 6 7 8 9 10 11 12 13	a finite element analysis; is that right? A. That's correct. Q. At the time of your last deposition, you did not have a license for the software that would allow you to run a finite element analysis; correct? A. That's correct. Q. Did you acquire a license so that you could run that analysis? A. No, I did not. I worked with Altair Computing to run the analysis. Q. And if you would tell me who Altair Computing is, I would appreciate it. A. Altair Computing is a company based out of Detroit, Michigan, and they have a soft several	2 3 4 5 6 7 8 9 10 11	cryogenic engineering? A. I don't believe so. Q. During your last deposition, I believe you told me that you stopped doing FEAs around the time you stopped doing work for the Department of Defense; is that is that about right? A. I I don't know exactly what I said, but it's something we didn't I stopped maintaining our software licenses because we had some pretty large domineer our complex domineer software code licenses and meshing licenses sometime shortly after we completed all of our work for the Department of Defense, and then I began utilizing Altair essentially on forensic projects where I needed FEA work done.
2 3 4 5 6 7 8 9 10 11 12 13 14	a finite element analysis; is that right? A. That's correct. Q. At the time of your last deposition, you did not have a license for the software that would allow you to run a finite element analysis; correct? A. That's correct. Q. Did you acquire a license so that you could run that analysis? A. No, I did not. I worked with Altair Computing to run the analysis. Q. And if you would tell me who Altair Computing is, I would appreciate it. A. Altair Computing is a company based out of Detroit, Michigan, and they have a soft several software packages. Back when I was working with	2 3 4 5 6 7 8 9 10 11 12 13 14	cryogenic engineering? A. I don't believe so. Q. During your last deposition, I believe you told me that you stopped doing FEAs around the time you stopped doing work for the Department of Defense; is that is that about right? A. I I don't know exactly what I said, but it's something we didn't I stopped maintaining our software licenses because we had some pretty large domineer our complex domineer software code licenses and meshing licenses sometime shortly after we completed all of our work for the Department of Defense, and then I began utilizing Altair essentially on forensic projects where I needed FEA work done. Q. When's the last time you worked with Altair to
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16	a finite element analysis; is that right? A. That's correct. Q. At the time of your last deposition, you did not have a license for the software that would allow you to run a finite element analysis; correct? A. That's correct. Q. Did you acquire a license so that you could run that analysis? A. No, I did not. I worked with Altair Computing to run the analysis. Q. And if you would tell me who Altair Computing is, I would appreciate it. A. Altair Computing is a company based out of Detroit, Michigan, and they have a soft several software packages. Back when I was working with Hyper Mesh was a big package that that I was	2 3 4 5 6 7 8 9 10 11 12 13 14 15 16	cryogenic engineering? A. I don't believe so. Q. During your last deposition, I believe you told me that you stopped doing FEAs around the time you stopped doing work for the Department of Defense; is that is that about right? A. I I don't know exactly what I said, but it's something we didn't I stopped maintaining our software licenses because we had some pretty large domineer our complex domineer software code licenses and meshing licenses sometime shortly after we completed all of our work for the Department of Defense, and then I began utilizing Altair essentially on forensic projects where I needed FEA work done.
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17	a finite element analysis; is that right? A. That's correct. Q. At the time of your last deposition, you did not have a license for the software that would allow you to run a finite element analysis; correct? A. That's correct. Q. Did you acquire a license so that you could run that analysis? A. No, I did not. I worked with Altair Computing to run the analysis. Q. And if you would tell me who Altair Computing is, I would appreciate it. A. Altair Computing is a company based out of Detroit, Michigan, and they have a soft several software packages. Back when I was working with Hyper Mesh was a big package that that I was personally using from them.	2 3 4 5 6 7 8 9 10 11 12 13 14	cryogenic engineering? A. I don't believe so. Q. During your last deposition, I believe you told me that you stopped doing FEAs around the time you stopped doing work for the Department of Defense; is that is that about right? A. I I don't know exactly what I said, but it's something we didn't I stopped maintaining our software licenses because we had some pretty large domineer our complex domineer software code licenses and meshing licenses sometime shortly after we completed all of our work for the Department of Defense, and then I began utilizing Altair essentially on forensic projects where I needed FEA work done. Q. When's the last time you worked with Altair to
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18	a finite element analysis; is that right? A. That's correct. Q. At the time of your last deposition, you did not have a license for the software that would allow you to run a finite element analysis; correct? A. That's correct. Q. Did you acquire a license so that you could run that analysis? A. No, I did not. I worked with Altair Computing to run the analysis. Q. And if you would tell me who Altair Computing is, I would appreciate it. A. Altair Computing is a company based out of Detroit, Michigan, and they have a soft several software packages. Back when I was working with Hyper Mesh was a big package that that I was personally using from them. But they're a company that specializes in	2 3 4 5 6 7 8 9 10 11 12 13 14 15 16	cryogenic engineering? A. I don't believe so. Q. During your last deposition, I believe you told me that you stopped doing FEAs around the time you stopped doing work for the Department of Defense; is that is that about right? A. I I don't know exactly what I said, but it's something we didn't I stopped maintaining our software licenses because we had some pretty large domineer our complex domineer software code licenses and meshing licenses sometime shortly after we completed all of our work for the Department of Defense, and then I began utilizing Altair essentially on forensic projects where I needed FEA work done. Q. When's the last time you worked with Altair to do an FEA project for a case? A. Oh. I would say probably three or so years ago.
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17	a finite element analysis; is that right? A. That's correct. Q. At the time of your last deposition, you did not have a license for the software that would allow you to run a finite element analysis; correct? A. That's correct. Q. Did you acquire a license so that you could run that analysis? A. No, I did not. I worked with Altair Computing to run the analysis. Q. And if you would tell me who Altair Computing is, I would appreciate it. A. Altair Computing is a company based out of Detroit, Michigan, and they have a soft several software packages. Back when I was working with Hyper Mesh was a big package that that I was personally using from them.	2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17	cryogenic engineering? A. I don't believe so. Q. During your last deposition, I believe you told me that you stopped doing FEAs around the time you stopped doing work for the Department of Defense; is that is that about right? A. I I don't know exactly what I said, but it's something we didn't I stopped maintaining our software licenses because we had some pretty large domineer our complex domineer software code licenses and meshing licenses sometime shortly after we completed all of our work for the Department of Defense, and then I began utilizing Altair essentially on forensic projects where I needed FEA work done. Q. When's the last time you worked with Altair to do an FEA project for a case? A. Oh. I would say probably three or so years
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18	a finite element analysis; is that right? A. That's correct. Q. At the time of your last deposition, you did not have a license for the software that would allow you to run a finite element analysis; correct? A. That's correct. Q. Did you acquire a license so that you could run that analysis? A. No, I did not. I worked with Altair Computing to run the analysis. Q. And if you would tell me who Altair Computing is, I would appreciate it. A. Altair Computing is a company based out of Detroit, Michigan, and they have a soft several software packages. Back when I was working with Hyper Mesh was a big package that that I was personally using from them. But they're a company that specializes in	2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18	cryogenic engineering? A. I don't believe so. Q. During your last deposition, I believe you told me that you stopped doing FEAs around the time you stopped doing work for the Department of Defense; is that is that about right? A. I I don't know exactly what I said, but it's something we didn't I stopped maintaining our software licenses because we had some pretty large domineer our complex domineer software code licenses and meshing licenses sometime shortly after we completed all of our work for the Department of Defense, and then I began utilizing Altair essentially on forensic projects where I needed FEA work done. Q. When's the last time you worked with Altair to do an FEA project for a case? A. Oh. I would say probably three or so years ago.
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18	a finite element analysis; is that right? A. That's correct. Q. At the time of your last deposition, you did not have a license for the software that would allow you to run a finite element analysis; correct? A. That's correct. Q. Did you acquire a license so that you could run that analysis? A. No, I did not. I worked with Altair Computing to run the analysis. Q. And if you would tell me who Altair Computing is, I would appreciate it. A. Altair Computing is a company based out of Detroit, Michigan, and they have a soft several software packages. Back when I was working with Hyper Mesh was a big package that that I was personally using from them. But they're a company that specializes in finite element analysis and finite element meshing	2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18	cryogenic engineering? A. I don't believe so. Q. During your last deposition, I believe you told me that you stopped doing FEAs around the time you stopped doing work for the Department of Defense; is that is that about right? A. I I don't know exactly what I said, but it's something we didn't I stopped maintaining our software licenses because we had some pretty large domineer our complex domineer software code licenses and meshing licenses sometime shortly after we completed all of our work for the Department of Defense, and then I began utilizing Altair essentially on forensic projects where I needed FEA work done. Q. When's the last time you worked with Altair to do an FEA project for a case? A. Oh. I would say probably three or so years ago. Q. Right. What what did that case involve?
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20	a finite element analysis; is that right? A. That's correct. Q. At the time of your last deposition, you did not have a license for the software that would allow you to run a finite element analysis; correct? A. That's correct. Q. Did you acquire a license so that you could run that analysis? A. No, I did not. I worked with Altair Computing to run the analysis. Q. And if you would tell me who Altair Computing is, I would appreciate it. A. Altair Computing is a company based out of Detroit, Michigan, and they have a soft several software packages. Back when I was working with Hyper Mesh was a big package that that I was personally using from them. But they're a company that specializes in finite element analysis and finite element meshing technology.	2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20	cryogenic engineering? A. I don't believe so. Q. During your last deposition, I believe you told me that you stopped doing FEAs around the time you stopped doing work for the Department of Defense; is that is that about right? A. I I don't know exactly what I said, but it's something we didn't I stopped maintaining our software licenses because we had some pretty large domineer our complex domineer software code licenses and meshing licenses sometime shortly after we completed all of our work for the Department of Defense, and then I began utilizing Altair essentially on forensic projects where I needed FEA work done. Q. When's the last time you worked with Altair to do an FEA project for a case? A. Oh. I would say probably three or so years ago. Q. Right. What what did that case involve? A. We were working on a case involving an
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21	a finite element analysis; is that right? A. That's correct. Q. At the time of your last deposition, you did not have a license for the software that would allow you to run a finite element analysis; correct? A. That's correct. Q. Did you acquire a license so that you could run that analysis? A. No, I did not. I worked with Altair Computing to run the analysis. Q. And if you would tell me who Altair Computing is, I would appreciate it. A. Altair Computing is a company based out of Detroit, Michigan, and they have a soft several software packages. Back when I was working with Hyper Mesh was a big package that that I was personally using from them. But they're a company that specializes in finite element analysis and finite element meshing technology. Q. And how how did you come to partner with	2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21	cryogenic engineering? A. I don't believe so. Q. During your last deposition, I believe you told me that you stopped doing FEAs around the time you stopped doing work for the Department of Defense; is that is that about right? A. I I don't know exactly what I said, but it's something we didn't I stopped maintaining our software licenses because we had some pretty large domineer our complex domineer software code licenses and meshing licenses sometime shortly after we completed all of our work for the Department of Defense, and then I began utilizing Altair essentially on forensic projects where I needed FEA work done. Q. When's the last time you worked with Altair to do an FEA project for a case? A. Oh. I would say probably three or so years ago. Q. Right. What what did that case involve? A. We were working on a case involving an aircraft tow bar that had failed and released a aircraft
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22	a finite element analysis; is that right? A. That's correct. Q. At the time of your last deposition, you did not have a license for the software that would allow you to run a finite element analysis; correct? A. That's correct. Q. Did you acquire a license so that you could run that analysis? A. No, I did not. I worked with Altair Computing to run the analysis. Q. And if you would tell me who Altair Computing is, I would appreciate it. A. Altair Computing is a company based out of Detroit, Michigan, and they have a soft several software packages. Back when I was working with Hyper Mesh was a big package that that I was personally using from them. But they're a company that specializes in finite element analysis and finite element meshing technology. Q. And how how did you come to partner with that company to do the FEA work?	2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22	cryogenic engineering? A. I don't believe so. Q. During your last deposition, I believe you told me that you stopped doing FEAs around the time you stopped doing work for the Department of Defense; is that is that about right? A. I I don't know exactly what I said, but it's something we didn't I stopped maintaining our software licenses because we had some pretty large domineer our complex domineer software code licenses and meshing licenses sometime shortly after we completed all of our work for the Department of Defense, and then I began utilizing Altair essentially on forensic projects where I needed FEA work done. Q. When's the last time you worked with Altair to do an FEA project for a case? A. Oh. I would say probably three or so years ago. Q. Right. What what did that case involve? A. We were working on a case involving an aircraft tow bar that had failed and released a aircraft owned by the Heinz family that then rolled into a King
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23	a finite element analysis; is that right? A. That's correct. Q. At the time of your last deposition, you did not have a license for the software that would allow you to run a finite element analysis; correct? A. That's correct. Q. Did you acquire a license so that you could run that analysis? A. No, I did not. I worked with Altair Computing to run the analysis. Q. And if you would tell me who Altair Computing is, I would appreciate it. A. Altair Computing is a company based out of Detroit, Michigan, and they have a soft several software packages. Back when I was working with Hyper Mesh was a big package that that I was personally using from them. But they're a company that specializes in finite element analysis and finite element meshing technology. Q. And how how did you come to partner with that company to do the FEA work? A. I have a longstanding relationship with them.	2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23	cryogenic engineering? A. I don't believe so. Q. During your last deposition, I believe you told me that you stopped doing FEAs around the time you stopped doing work for the Department of Defense; is that is that about right? A. I I don't know exactly what I said, but it's something we didn't I stopped maintaining our software licenses because we had some pretty large domineer our complex domineer software code licenses and meshing licenses sometime shortly after we completed all of our work for the Department of Defense, and then I began utilizing Altair essentially on forensic projects where I needed FEA work done. Q. When's the last time you worked with Altair to do an FEA project for a case? A. Oh. I would say probably three or so years ago. Q. Right. What what did that case involve? A. We were working on a case involving an aircraft tow bar that had failed and released a aircraft owned by the Heinz family that then rolled into a King Air aircraft, and there was a fracture of the tow bar

	Page 10		
1	Q. So the product at issue in that case was a tow		
2	bar for aircraft?		
3	A. Exactly.		
4	Q. When I looked at your curriculum vitae from		
5	your first report, I saw that the last major research		
6	project you have for the Department of Defense, as		
7	listed at least in your CV, was in 2003. That sound		
8	about right?		
9	A. That was probably the last publication		
	associated with it, but, no, that wasn't the end of it.		
10 11			
	(Reporter requesting clarification.)		
12	(Discussion off the record.)		
13	THE WITNESS: That was not the end of our		
14	work.		
15	BY MR. DUFFY:		
16	Q. Would you provide me with your best estimate		
17	as to when you stopped doing work for the Department of		
18	Defense?		
19	A. I would say sometime in the neighborhood of		
20	2010.		
21	Q. And was that thank you.		
22	Would that be about the last time you	22	There's a difference of opinion there.
23	maintained a software license for a finite element	23	Q. Let me let me ask you this: Did there
24	analysis program?	24	is evidence in this case that liquid nitrogen levels
25	A. No. That, I don't know the answer to. I	25	were required at PFC to be kept at 11 inches; correct?
	Page 11		Page 13
1	don't know when our license expired.	1	A. Yeah, I'm sure there was.
2	I just made the at some point, I made the	2	Q. And you've reviewed the data download that
3	decision not to continue to maintain we own so let	3	came from Tank 4; correct?
4	me let me explain that to you Mr. Duffy.	4	A. Some time ago but yes.
5	Q. Okay.	5	Q. And the data download shows that liquid levels
6	A. We own two licenses of the software, so we	6	were maintained above 11 inches; does it not?
7	we actually physically own them. They're ours. We	7	A. Well, I believe actually that Chart's former
8	bought them in perpetuity.	8	attorney had questioned me about that, and there were
9	The issue is that if you want to continue to	9	times where that level may have decreased below that
10	maintain and and receive improvements of the	10	11 inches.
11	software, you have to continue to pay maintenance fees	11	Q. Sure. Those were for dates in 2013 and 2014?
12	that are on the order of, you know, tens of thousands of	12	Is that something you recall?
13	dollars a year for the particular software packages that	13	A. I don't recall the specific dates; I just
14	we own.	14	recall the occurrences.
15	So I made a decision at some point that it was	15	Q. Well, other than those dates, the data
16	not worth paying \$20,000, or however much it was back	16	download shows that the liquid nitrogen levels exceeded
17	then, to to maintain those licenses.	17	11 inches; correct?
18	Q. Do the material properties of metal's thermal	18	A. I think, in general, that's fair to the best
19	conductivity and thermal expansion coefficient depend on	19	of my recollection.
20	the temperature of the metal?	20	
21	A. They can.		
22	and the second		

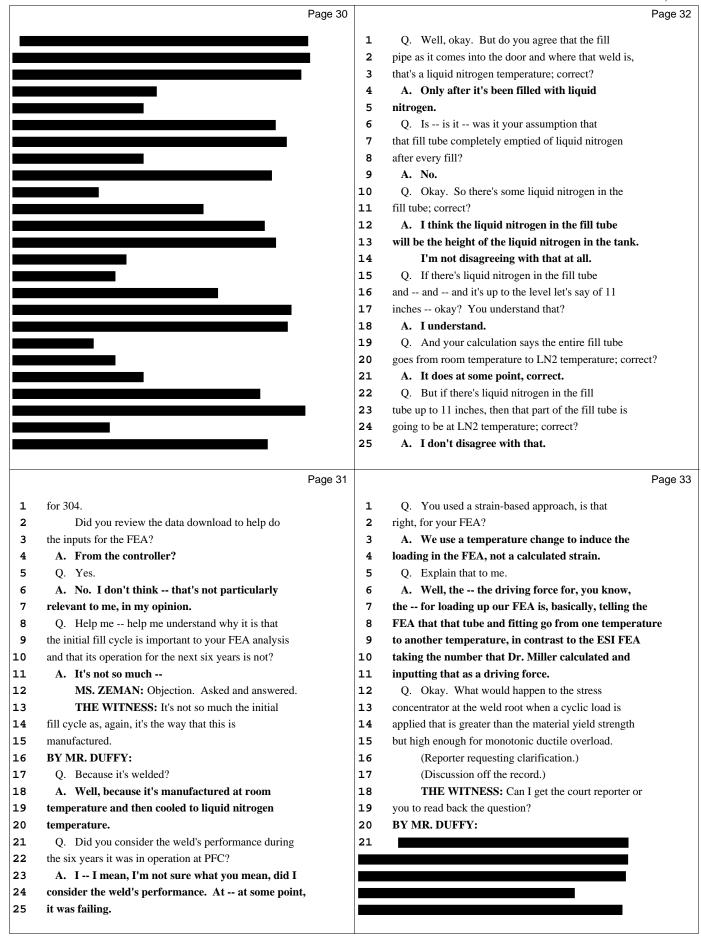


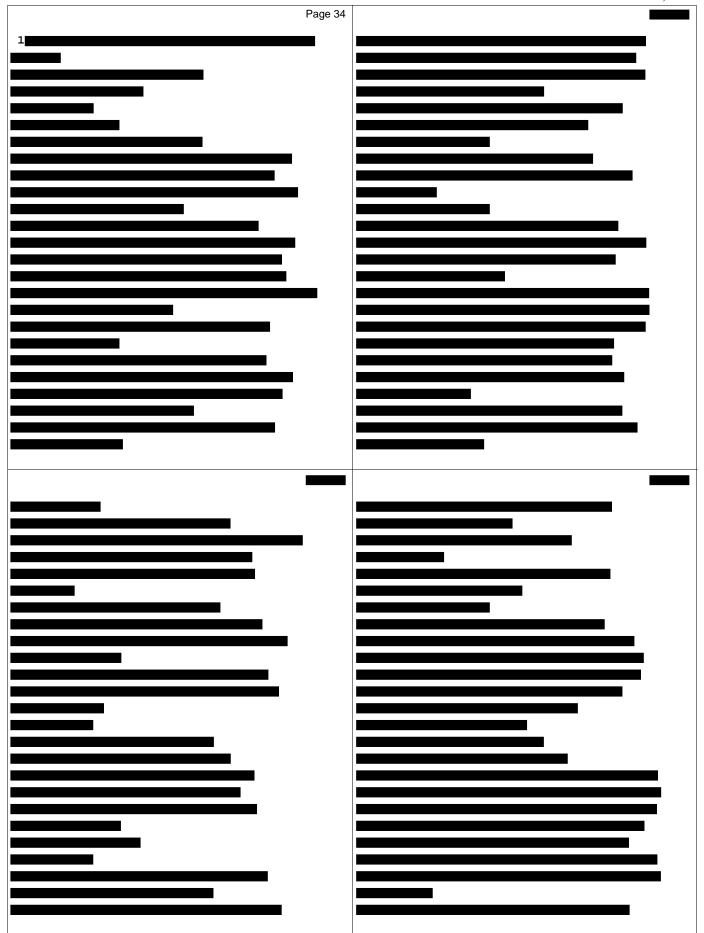


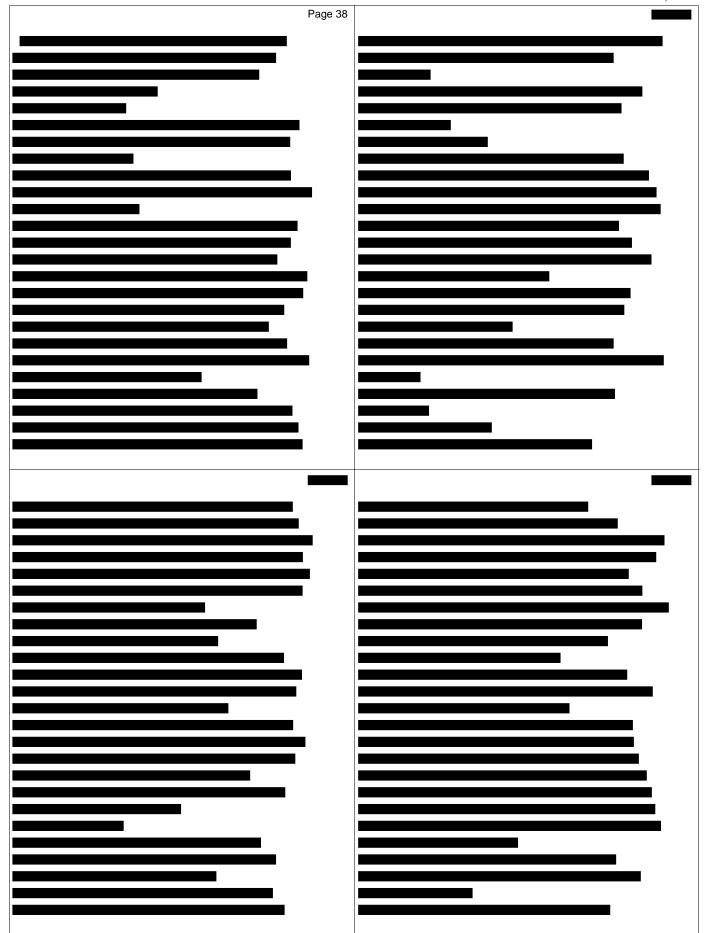


	Page 26		Page 28
1	Mr. Parrington and Dr. Miller is more accurate?	1 the entire issue.	
2	A. No. I think it's wrong.	2 Q. And then all of the other days of the six	
3	Q. Why do you think it's wrong?	years of the operation of this freezer, it's above 11	
4	A. I don't think they're looking at the	4 inches; correct?	
5	contraction correctly.	5 A. It may very well be.	
6	Q. Why?	6	
7	A. Because I think they're relying upon Miller's		
8	analysis of what a thermal cycling would be and what the		
9	contraction would be from that.		
10	Q. And the thermal cycling in in in what		
11	specific way?		
12	A. I I think Miller's number for contraction		
13	is too small, and		
14	Q. Why is that?		
15	A. Because I don't agree with his assumptions		
16	about what the magnitude of the contraction is.		
17	Q. I know that, but why?		
18	A. Why? Because he's assuming that there's		
19	11 inches of nitrogen in there and the first 11 inches		
20	of the fill tube and everything below it are contracting		
21	from that condition, and I don't agree with it.		
22	Q. Well, there's data on this. It's knowable;		
23	isn't that correct?		
24	A. I'm I'm sorry. Now, I don't understand		
25	what you mean, "There's data on this, It's knowable."		
	Dava 07		
	Page 27		
1	Page 27 Q. Well, there's a there's a data recorder on		
1 2	•		
	Q. Well, there's a there's a data recorder on		
2	 Q. Well, there's a there's a data recorder on the MVE 808; isn't that correct? A. Yes, there is. Q. Okay. And in there, it it maintains a 		
2	Q. Well, there's a there's a data recorder on the MVE 808; isn't that correct?A. Yes, there is.		
2 3 4	 Q. Well, there's a there's a data recorder on the MVE 808; isn't that correct? A. Yes, there is. Q. Okay. And in there, it it maintains a measurement, a level; correct? A. Correct. 		
2 3 4 5 6 7	 Q. Well, there's a there's a data recorder on the MVE 808; isn't that correct? A. Yes, there is. Q. Okay. And in there, it it maintains a measurement, a level; correct? A. Correct. Q. And other than those instances in January of 		
2 3 4 5 6 7 8	 Q. Well, there's a there's a data recorder on the MVE 808; isn't that correct? A. Yes, there is. Q. Okay. And in there, it it maintains a measurement, a level; correct? A. Correct. Q. And other than those instances in January of 2014 and December of 2013, the LN2 levels exceed 		
2 3 4 5 6 7 8	 Q. Well, there's a there's a data recorder on the MVE 808; isn't that correct? A. Yes, there is. Q. Okay. And in there, it it maintains a measurement, a level; correct? A. Correct. Q. And other than those instances in January of 2014 and December of 2013, the LN2 levels exceed 11 inches; correct? 		
2 3 4 5 6 7 8 9	 Q. Well, there's a there's a data recorder on the MVE 808; isn't that correct? A. Yes, there is. Q. Okay. And in there, it it maintains a measurement, a level; correct? A. Correct. Q. And other than those instances in January of 2014 and December of 2013, the LN2 levels exceed 11 inches; correct? A. Oh. Except for when the tank is manufactured. 		
2 3 4 5 6 7 8 9 10	 Q. Well, there's a there's a data recorder on the MVE 808; isn't that correct? A. Yes, there is. Q. Okay. And in there, it it maintains a measurement, a level; correct? A. Correct. Q. And other than those instances in January of 2014 and December of 2013, the LN2 levels exceed 11 inches; correct? A. Oh. Except for when the tank is manufactured. Q. That's 		
2 3 4 5 6 7 8 9 10 11	 Q. Well, there's a there's a data recorder on the MVE 808; isn't that correct? A. Yes, there is. Q. Okay. And in there, it it maintains a measurement, a level; correct? A. Correct. Q. And other than those instances in January of 2014 and December of 2013, the LN2 levels exceed 11 inches; correct? A. Oh. Except for when the tank is manufactured. Q. That's A. That's one; and then it's delivered and it's 		
2 3 4 5 6 7 8 9 10 11 12 13	Q. Well, there's a there's a data recorder on the MVE 808; isn't that correct? A. Yes, there is. Q. Okay. And in there, it it maintains a measurement, a level; correct? A. Correct. Q. And other than those instances in January of 2014 and December of 2013, the LN2 levels exceed 11 inches; correct? A. Oh. Except for when the tank is manufactured. Q. That's A. That's one; and then it's delivered and it's filled. That's two; and then you have another two		
2 3 4 5 6 7 8 9 10 11 12 13 14	Q. Well, there's a there's a data recorder on the MVE 808; isn't that correct? A. Yes, there is. Q. Okay. And in there, it it maintains a measurement, a level; correct? A. Correct. Q. And other than those instances in January of 2014 and December of 2013, the LN2 levels exceed 11 inches; correct? A. Oh. Except for when the tank is manufactured. Q. That's A. That's one; and then it's delivered and it's filled. That's two; and then you have another two inches, so that's four		
2 3 4 5 6 7 8 9 10 11 12 13 14 15	Q. Well, there's a there's a data recorder on the MVE 808; isn't that correct? A. Yes, there is. Q. Okay. And in there, it it maintains a measurement, a level; correct? A. Correct. Q. And other than those instances in January of 2014 and December of 2013, the LN2 levels exceed 11 inches; correct? A. Oh. Except for when the tank is manufactured. Q. That's A. That's one; and then it's delivered and it's filled. That's two; and then you have another two inches, so that's four Q. Okay.		
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16	Q. Well, there's a there's a data recorder on the MVE 808; isn't that correct? A. Yes, there is. Q. Okay. And in there, it it maintains a measurement, a level; correct? A. Correct. Q. And other than those instances in January of 2014 and December of 2013, the LN2 levels exceed 11 inches; correct? A. Oh. Except for when the tank is manufactured. Q. That's A. That's one; and then it's delivered and it's filled. That's two; and then you have another two inches, so that's four Q. Okay. A and then the I think the the bigger		
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17	Q. Well, there's a there's a data recorder on the MVE 808; isn't that correct? A. Yes, there is. Q. Okay. And in there, it it maintains a measurement, a level; correct? A. Correct. Q. And other than those instances in January of 2014 and December of 2013, the LN2 levels exceed 11 inches; correct? A. Oh. Except for when the tank is manufactured. Q. That's A. That's one; and then it's delivered and it's filled. That's two; and then you have another two inches, so that's four Q. Okay. A and then the I think the the bigger point is, again, that tank is manufactured at or above		
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18	Q. Well, there's a there's a data recorder on the MVE 808; isn't that correct? A. Yes, there is. Q. Okay. And in there, it it maintains a measurement, a level; correct? A. Correct. Q. And other than those instances in January of 2014 and December of 2013, the LN2 levels exceed 11 inches; correct? A. Oh. Except for when the tank is manufactured. Q. That's A. That's one; and then it's delivered and it's filled. That's two; and then you have another two inches, so that's four Q. Okay. A and then the I think the the bigger point is, again, that tank is manufactured at or above room temperature.		
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18	Q. Well, there's a there's a data recorder on the MVE 808; isn't that correct? A. Yes, there is. Q. Okay. And in there, it it maintains a measurement, a level; correct? A. Correct. Q. And other than those instances in January of 2014 and December of 2013, the LN2 levels exceed 11 inches; correct? A. Oh. Except for when the tank is manufactured. Q. That's A. That's one; and then it's delivered and it's filled. That's two; and then you have another two inches, so that's four Q. Okay. A and then the I think the the bigger point is, again, that tank is manufactured at or above room temperature. Q. I understand that, but we're talking about the		
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20	Q. Well, there's a there's a data recorder on the MVE 808; isn't that correct? A. Yes, there is. Q. Okay. And in there, it it maintains a measurement, a level; correct? A. Correct. Q. And other than those instances in January of 2014 and December of 2013, the LN2 levels exceed 11 inches; correct? A. Oh. Except for when the tank is manufactured. Q. That's A. That's one; and then it's delivered and it's filled. That's two; and then you have another two inches, so that's four Q. Okay. A and then the I think the the bigger point is, again, that tank is manufactured at or above room temperature. Q. I understand that, but we're talking about the cycles in which liquid nitrogen is filled inside the		
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18	Q. Well, there's a there's a data recorder on the MVE 808; isn't that correct? A. Yes, there is. Q. Okay. And in there, it it maintains a measurement, a level; correct? A. Correct. Q. And other than those instances in January of 2014 and December of 2013, the LN2 levels exceed 11 inches; correct? A. Oh. Except for when the tank is manufactured. Q. That's A. That's one; and then it's delivered and it's filled. That's two; and then you have another two inches, so that's four Q. Okay. A and then the I think the the bigger point is, again, that tank is manufactured at or above room temperature. Q. I understand that, but we're talking about the		
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21	Q. Well, there's a there's a data recorder on the MVE 808; isn't that correct? A. Yes, there is. Q. Okay. And in there, it it maintains a measurement, a level; correct? A. Correct. Q. And other than those instances in January of 2014 and December of 2013, the LN2 levels exceed 11 inches; correct? A. Oh. Except for when the tank is manufactured. Q. That's A. That's one; and then it's delivered and it's filled. That's two; and then you have another two inches, so that's four Q. Okay. A and then the I think the the bigger point is, again, that tank is manufactured at or above room temperature. Q. I understand that, but we're talking about the cycles in which liquid nitrogen is filled inside the tube so we can evaluate your theory; correct? A. Correct.		
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22	Q. Well, there's a there's a data recorder on the MVE 808; isn't that correct? A. Yes, there is. Q. Okay. And in there, it it maintains a measurement, a level; correct? A. Correct. Q. And other than those instances in January of 2014 and December of 2013, the LN2 levels exceed 11 inches; correct? A. Oh. Except for when the tank is manufactured. Q. That's A. That's one; and then it's delivered and it's filled. That's two; and then you have another two inches, so that's four Q. Okay. A and then the I think the the bigger point is, again, that tank is manufactured at or above room temperature. Q. I understand that, but we're talking about the cycles in which liquid nitrogen is filled inside the tube so we can evaluate your theory; correct?		
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23	Q. Well, there's a there's a data recorder on the MVE 808; isn't that correct? A. Yes, there is. Q. Okay. And in there, it it maintains a measurement, a level; correct? A. Correct. Q. And other than those instances in January of 2014 and December of 2013, the LN2 levels exceed 11 inches; correct? A. Oh. Except for when the tank is manufactured. Q. That's A. That's one; and then it's delivered and it's filled. That's two; and then you have another two inches, so that's four Q. Okay. A and then the I think the the bigger point is, again, that tank is manufactured at or above room temperature. Q. I understand that, but we're talking about the cycles in which liquid nitrogen is filled inside the tube so we can evaluate your theory; correct? A. Correct. Q. Well, we got four days in which you can say		

ANAND KASBEKAR, Ph.D. **CENTER LITIGATION December 15, 2020**







ANAND KASBEKAR, Ph.D. **CENTER LITIGATION December 15, 2020** Page 42 Page 44 1 Q. Okay. Is it an opinion that you hold that 2 there was a rapid depletion of liquid nitrogen out of 3 4 A. I think there was a depletion that was more 5 rapid than the normal net evaporation rate for nitrogen 6 in Tank 4. 7 Q. What -- how fast do you think the LN2 8 evaporated? 9 A. I -- you know, all -- all I know to tell you 10 is that between the time that it was filled and reported 11 to be at a level of about 14 inches and the time that 12 the tank was open and reported to be at a level of, at 13 most, one inch, that that additional 13-plus inches went 14 Q. What paper are you relying on for this design? 14 somewhere. 15 15 A. The same paper we were talking about earlier That's all -- that's all I know about the 16 16 that shows a very similar design but with more of a -depletion rate. 17 instead of those two tubes -- I'm going to use my 17 O. So if we take the boundaries of that testimony 18 fingers again because I don't have two pens, or maybe I 18 and have the measurement of 14 inches GB made at 2:30 on 19 do. 19 Saturday, the 2nd --20 20 Instead of those two tubes GB like that in our A. Uh-huh. 21 simplified beam model, they are more like this. 21 Q. -- and Dr. Conaghan opening the lid at about 22 Q. What -- what paper is that again? 22 12:20 on Sunday, March 4, it's about 22 hours? 23 A. It's -- it's the one that we were talking 23 A. That is correct. 24 about on thermal contraction and cryogenic vessels. 24 25 Q. Is that in Footnote -- it's on page 5 Page 43 1 originally? 2 A. I think we were looking at page 7, too. Yeah, 3 Footnote Number 30. 4 Q. Okay. Are you -- are you critical of 5 Mr. Parrington and Dr. Miller for not providing an

- 6 explanation for the rapid depletion of liquid nitrogen?
 - A. I -- I don't know that Mr. Parrington even got
- 8 into that. I do think -- and I'm not sure if I'm
- 9 answering the right question, but I do think in
- 10 Mr. Miller's -- or Dr. Miller's work, that the fact that
- 11 he ran one experiment and it didn't agree with what
- 12 the -- Prelude or PFC clinical staff said, I am critical
- 13 of that. I don't think he reaches a conclusion in a --
- 14 in a logical manner that he reaches.
- 15 O. Let me -- let me ask the question again
- 16 because I think you may have answered --
- 17 A. Sure.

7

- 18 Q. -- a question I didn't ask.
- 19 Are you critical of Mr. Parrington and
- 20 Dr. Miller for not providing a reasonable explanation
- 21 about the rapid depletion of liquid nitrogen?
- 22 A. I'm not necessarily critical of them for that.
- 23 I -- I -- I guess I don't understand completely the
- 24 question. I don't know that -- I -- I just -- I -- I'm
- 25 not critical of them in particular for that, no.



- Q. Okay. And it was, in a 22-hour period, a
- 16 combination of liquid nitrogen and liquid nitrogen gas
- 17 poured into the vacuum space; correct?
- 18 A. Again, I'm -- I'm not going to agree to the
- 19 use of the word "poured" --
 - Q. Okay.
- 21 A. -- but if you want to change that to
- 22 "migrated" I -- I will give you that.
- 23 Q. Okay. So you believe that the liquid nitrogen
- 24 migrated into the vacuum space in a 22-hour period;
- 25 correct?

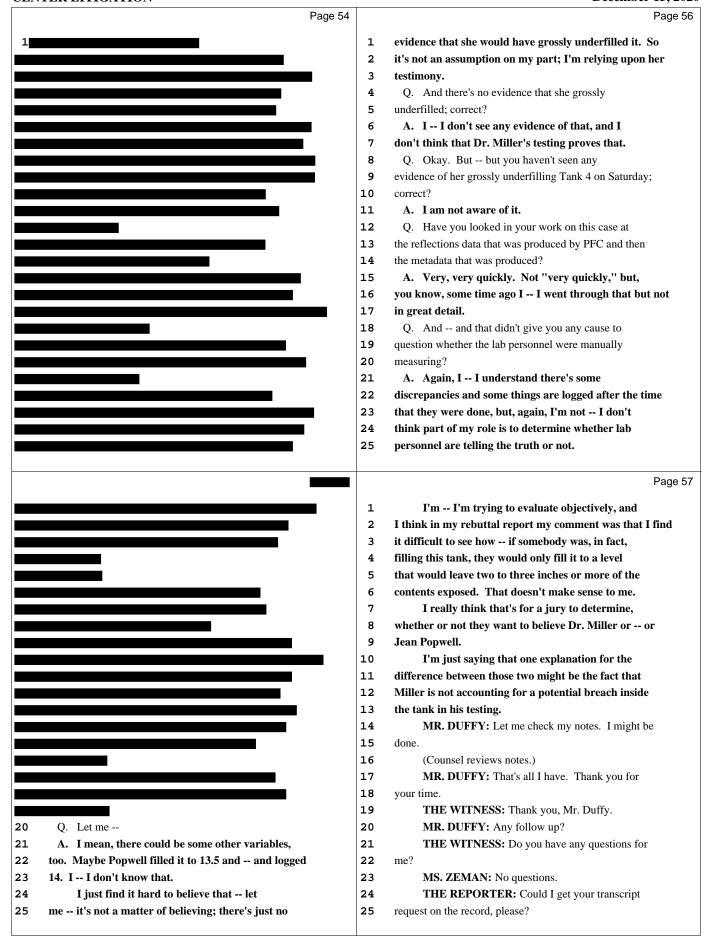
15

20

Case 3:18-cv-01586-JSC Document 647-11 Filed 01/08/21 Page 13 of 25 ANAND KASBEKAR, Ph.D. CENTER LITIGATION December 15, 2020

	TEX LITIGATION		December 13, 2020
	Р	age 46	Page 48
1	A. I believe that there was a combination of boil	1	boil off at a more rapid than normal rate because of
2	off and nitrogen migration into the vacuum space over	2	loss of vacuum, and that in part nitrogen gas made it
3	that period; it's it's a logical explanation, given	3	into the vacuum space and perhaps some liquid nitrogen
4	the testimony and what happened to the tank. And I,	4	made it into the vacuum space
5	quite frankly, believe that Dr. Miller's testing, which	5	Q. Okay.
6	does not involve any sort of a breach on the inside of	6	A but I don't know at what rate and the exact
7	the tank GB simulated, helps to confirm that.	7	quantity of boil off versus migration into the vacuum
8	MS. ZEMAN: Connie, I have an objection, and	8	space.
9	could you make sure that that gets in there? It was	9	Q. And in Dr. Miller's testing that he performed,
10	"misstates testimony."	10	he spoiled the entire vacuum; correct?
11	BY MR. DUFFY:	11	A. That's correct.
12	Q. Okay. So let me make sure I I understand	12	Q. So that would cause a rapid depletion of the vacuum seal itself; correct?
13	this, Dr. Kasbekar.	13	,
14	It is your opinion that the liquid nitrogen	14	A. That's correct.
15	inside the dual (phonetic) migrated into the vacuum	15	Q. And you saw the photographs he took, as well?
16	space in a 22-hour period? Is that fair to state?	16	A. Photographs of what?
17	A. Again, that's not what I said; I said that I	17	Q. Of the exemplar freezer.
18	believe that nitrogen, either in gas and/or liquid form,	18	A. Yes.
19	in part entered into the vacuum space. There's also	19	Q. And you saw the ball of ice near the lid?
20	boil off going.	20	A. I did.
21	So you got two things going on. You've got	21	Q. And then the condensation on the exterior
22	evaporation at a higher-than-normal rate, and you've	22	of of the exemplar; right?
23	got, in my opinion, a breach of some size between the	23	A. I did.
24	inner tank and the vacuum space.	24	Q. And water collected on the floor; correct?
25	Q. So the 22 inches that it migrates, it migrates	25	A. Correct.
	_		
	Р	age 47	Page 49
1			
1 2	in two fashions: One through the crack, and one through	1	Q. And there's been no testimony in this case
2	in two fashions: One through the crack, and one through boil off; correct?	1 2	Q. And there's been no testimony in this case that Tank 4 had any ice near the lid; correct?
2	in two fashions: One through the crack, and one through boil off; correct? A. The 22 inches?	1 2 3	Q. And there's been no testimony in this case that Tank 4 had any ice near the lid; correct?A. That's correct.
2 3 4	in two fashions: One through the crack, and one through boil off; correct? A. The 22 inches? Q. I'm sorry. The let me restate the the	1 2 3 4	 Q. And there's been no testimony in this case that Tank 4 had any ice near the lid; correct? A. That's correct. Q. And there's no testimony in this case that the
2 3 4 5	in two fashions: One through the crack, and one through boil off; correct? A. The 22 inches? Q. I'm sorry. The let me restate the the question.	1 2 3 4 5	 Q. And there's been no testimony in this case that Tank 4 had any ice near the lid; correct? A. That's correct. Q. And there's no testimony in this case that the exterior skin of Tank 4 had condensation on it; correct?
2 3 4 5 6	in two fashions: One through the crack, and one through boil off; correct? A. The 22 inches? Q. I'm sorry. The let me restate the the question. You believe the 22 inches of liquid nitrogen	1 2 3 4 5	 Q. And there's been no testimony in this case that Tank 4 had any ice near the lid; correct? A. That's correct. Q. And there's no testimony in this case that the exterior skin of Tank 4 had condensation on it; correct? A. I nothing other than near the bottom is my
2 3 4 5 6 7	in two fashions: One through the crack, and one through boil off; correct? A. The 22 inches? Q. I'm sorry. The let me restate the the question. You believe the 22 inches of liquid nitrogen migrated into the vacuum space as gas or liquid or both	1 2 3 4 5 6 7	 Q. And there's been no testimony in this case that Tank 4 had any ice near the lid; correct? A. That's correct. Q. And there's no testimony in this case that the exterior skin of Tank 4 had condensation on it; correct? A. I nothing other than near the bottom is my recollection of the testimony.
2 3 4 5 6 7 8	in two fashions: One through the crack, and one through boil off; correct? A. The 22 inches? Q. I'm sorry. The let me restate the the question. You believe the 22 inches of liquid nitrogen migrated into the vacuum space as gas or liquid or both and also boiled off during that period of time; correct?	1 2 3 4 5 6 7 8	 Q. And there's been no testimony in this case that Tank 4 had any ice near the lid; correct? A. That's correct. Q. And there's no testimony in this case that the exterior skin of Tank 4 had condensation on it; correct? A. I nothing other than near the bottom is my recollection of the testimony. Q. Correct. So but unlike if you contrast it
2 3 4 5 6 7 8	in two fashions: One through the crack, and one through boil off; correct? A. The 22 inches? Q. I'm sorry. The let me restate the the question. You believe the 22 inches of liquid nitrogen migrated into the vacuum space as gas or liquid or both and also boiled off during that period of time; correct? A. Well, Mr. Duffy, I don't believe there were	1 2 3 4 5 6 7 8	 Q. And there's been no testimony in this case that Tank 4 had any ice near the lid; correct? A. That's correct. Q. And there's no testimony in this case that the exterior skin of Tank 4 had condensation on it; correct? A. I nothing other than near the bottom is my recollection of the testimony. Q. Correct. So but unlike if you contrast it with Dr. Miller's testing, that condensation goes from
2 3 4 5 6 7 8 9	in two fashions: One through the crack, and one through boil off; correct? A. The 22 inches? Q. I'm sorry. The let me restate the the question. You believe the 22 inches of liquid nitrogen migrated into the vacuum space as gas or liquid or both and also boiled off during that period of time; correct? A. Well, Mr. Duffy, I don't believe there were 22 inches of liquid nitrogen in the tank.	1 2 3 4 5 6 7 8 9	 Q. And there's been no testimony in this case that Tank 4 had any ice near the lid; correct? A. That's correct. Q. And there's no testimony in this case that the exterior skin of Tank 4 had condensation on it; correct? A. I nothing other than near the bottom is my recollection of the testimony. Q. Correct. So but unlike if you contrast it with Dr. Miller's testing, that condensation goes from the top all the way to the bottom; correct?
2 3 4 5 6 7 8 9 10	in two fashions: One through the crack, and one through boil off; correct? A. The 22 inches? Q. I'm sorry. The let me restate the the question. You believe the 22 inches of liquid nitrogen migrated into the vacuum space as gas or liquid or both and also boiled off during that period of time; correct? A. Well, Mr. Duffy, I don't believe there were 22 inches of liquid nitrogen in the tank. Q. Sorry. There was 14 inches of liquid nitrogen	1 2 3 4 5 6 7 8 9 10	 Q. And there's been no testimony in this case that Tank 4 had any ice near the lid; correct? A. That's correct. Q. And there's no testimony in this case that the exterior skin of Tank 4 had condensation on it; correct? A. I nothing other than near the bottom is my recollection of the testimony. Q. Correct. So but unlike if you contrast it with Dr. Miller's testing, that condensation goes from the top all the way to the bottom; correct? A. It I I would agree that Dr. Miller's
2 3 4 5 6 7 8 9 10 11	in two fashions: One through the crack, and one through boil off; correct? A. The 22 inches? Q. I'm sorry. The let me restate the the question. You believe the 22 inches of liquid nitrogen migrated into the vacuum space as gas or liquid or both and also boiled off during that period of time; correct? A. Well, Mr. Duffy, I don't believe there were 22 inches of liquid nitrogen in the tank. Q. Sorry. There was 14 inches of liquid nitrogen is what you assumed; correct?	1 2 3 4 5 6 7 8 9 10 11 12	Q. And there's been no testimony in this case that Tank 4 had any ice near the lid; correct? A. That's correct. Q. And there's no testimony in this case that the exterior skin of Tank 4 had condensation on it; correct? A. I nothing other than near the bottom is my recollection of the testimony. Q. Correct. So but unlike if you contrast it with Dr. Miller's testing, that condensation goes from the top all the way to the bottom; correct? A. It I I would agree that Dr. Miller's testing was not consistent with what the lab personnel
2 3 4 5 6 7 8 9 10 11 12	in two fashions: One through the crack, and one through boil off; correct? A. The 22 inches? Q. I'm sorry. The let me restate the the question. You believe the 22 inches of liquid nitrogen migrated into the vacuum space as gas or liquid or both and also boiled off during that period of time; correct? A. Well, Mr. Duffy, I don't believe there were 22 inches of liquid nitrogen in the tank. Q. Sorry. There was 14 inches of liquid nitrogen is what you assumed; correct? A. That's not what I assumed; that's that's	1 2 3 4 5 6 7 8 9 10 11 12 13	Q. And there's been no testimony in this case that Tank 4 had any ice near the lid; correct? A. That's correct. Q. And there's no testimony in this case that the exterior skin of Tank 4 had condensation on it; correct? A. I nothing other than near the bottom is my recollection of the testimony. Q. Correct. So but unlike if you contrast it with Dr. Miller's testing, that condensation goes from the top all the way to the bottom; correct? A. It I I would agree that Dr. Miller's testing was not consistent with what the lab personnel reported.
2 3 4 5 6 7 8 9 10 11 12 13 14	in two fashions: One through the crack, and one through boil off; correct? A. The 22 inches? Q. I'm sorry. The let me restate the the question. You believe the 22 inches of liquid nitrogen migrated into the vacuum space as gas or liquid or both and also boiled off during that period of time; correct? A. Well, Mr. Duffy, I don't believe there were 22 inches of liquid nitrogen in the tank. Q. Sorry. There was 14 inches of liquid nitrogen is what you assumed; correct? A. That's not what I assumed; that's that's what Jean Popwell reported that she	1 2 3 4 5 6 7 8 9 10 11 12 13 14	Q. And there's been no testimony in this case that Tank 4 had any ice near the lid; correct? A. That's correct. Q. And there's no testimony in this case that the exterior skin of Tank 4 had condensation on it; correct? A. I nothing other than near the bottom is my recollection of the testimony. Q. Correct. So but unlike if you contrast it with Dr. Miller's testing, that condensation goes from the top all the way to the bottom; correct? A. It I I would agree that Dr. Miller's testing was not consistent with what the lab personnel reported. Q. If Jean Popwell didn't actually measure on
2 3 4 5 6 7 8 9 10 11 12 13 14	in two fashions: One through the crack, and one through boil off; correct? A. The 22 inches? Q. I'm sorry. The let me restate the the question. You believe the 22 inches of liquid nitrogen migrated into the vacuum space as gas or liquid or both and also boiled off during that period of time; correct? A. Well, Mr. Duffy, I don't believe there were 22 inches of liquid nitrogen in the tank. Q. Sorry. There was 14 inches of liquid nitrogen is what you assumed; correct? A. That's not what I assumed; that's that's what Jean Popwell reported that she Q. You have to assume that's accurate; right?	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	Q. And there's been no testimony in this case that Tank 4 had any ice near the lid; correct? A. That's correct. Q. And there's no testimony in this case that the exterior skin of Tank 4 had condensation on it; correct? A. I nothing other than near the bottom is my recollection of the testimony. Q. Correct. So but unlike if you contrast it with Dr. Miller's testing, that condensation goes from the top all the way to the bottom; correct? A. It I I would agree that Dr. Miller's testing was not consistent with what the lab personnel reported. Q. If Jean Popwell didn't actually measure on Saturday, the 3rd, how would that impact your opinions?
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16	in two fashions: One through the crack, and one through boil off; correct? A. The 22 inches? Q. I'm sorry. The let me restate the the question. You believe the 22 inches of liquid nitrogen migrated into the vacuum space as gas or liquid or both and also boiled off during that period of time; correct? A. Well, Mr. Duffy, I don't believe there were 22 inches of liquid nitrogen in the tank. Q. Sorry. There was 14 inches of liquid nitrogen is what you assumed; correct? A. That's not what I assumed; that's that's what Jean Popwell reported that she Q. You have to assume that's accurate; right? A. I'm assuming that's reasonably accurate.	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16	Q. And there's been no testimony in this case that Tank 4 had any ice near the lid; correct? A. That's correct. Q. And there's no testimony in this case that the exterior skin of Tank 4 had condensation on it; correct? A. I nothing other than near the bottom is my recollection of the testimony. Q. Correct. So but unlike if you contrast it with Dr. Miller's testing, that condensation goes from the top all the way to the bottom; correct? A. It I I would agree that Dr. Miller's testing was not consistent with what the lab personnel reported. Q. If Jean Popwell didn't actually measure on Saturday, the 3rd, how would that impact your opinions? A. If if the tank was not filled at that
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16	in two fashions: One through the crack, and one through boil off; correct? A. The 22 inches? Q. I'm sorry. The let me restate the the question. You believe the 22 inches of liquid nitrogen migrated into the vacuum space as gas or liquid or both and also boiled off during that period of time; correct? A. Well, Mr. Duffy, I don't believe there were 22 inches of liquid nitrogen in the tank. Q. Sorry. There was 14 inches of liquid nitrogen is what you assumed; correct? A. That's not what I assumed; that's that's what Jean Popwell reported that she Q. You have to assume that's accurate; right? A. I'm assuming that's reasonably accurate. Whether it was 13.8 or 14.2, I don't know, but I assume	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17	Q. And there's been no testimony in this case that Tank 4 had any ice near the lid; correct? A. That's correct. Q. And there's no testimony in this case that the exterior skin of Tank 4 had condensation on it; correct? A. I nothing other than near the bottom is my recollection of the testimony. Q. Correct. So but unlike if you contrast it with Dr. Miller's testing, that condensation goes from the top all the way to the bottom; correct? A. It I I would agree that Dr. Miller's testing was not consistent with what the lab personnel reported. Q. If Jean Popwell didn't actually measure on Saturday, the 3rd, how would that impact your opinions? A. If if the tank was not filled at that point?
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17	in two fashions: One through the crack, and one through boil off; correct? A. The 22 inches? Q. I'm sorry. The let me restate the the question. You believe the 22 inches of liquid nitrogen migrated into the vacuum space as gas or liquid or both and also boiled off during that period of time; correct? A. Well, Mr. Duffy, I don't believe there were 22 inches of liquid nitrogen in the tank. Q. Sorry. There was 14 inches of liquid nitrogen is what you assumed; correct? A. That's not what I assumed; that's that's what Jean Popwell reported that she Q. You have to assume that's accurate; right? A. I'm assuming that's reasonably accurate. Whether it was 13.8 or 14.2, I don't know, but I assume that it's I have no reason to believe that she's not	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18	Q. And there's been no testimony in this case that Tank 4 had any ice near the lid; correct? A. That's correct. Q. And there's no testimony in this case that the exterior skin of Tank 4 had condensation on it; correct? A. I nothing other than near the bottom is my recollection of the testimony. Q. Correct. So but unlike if you contrast it with Dr. Miller's testing, that condensation goes from the top all the way to the bottom; correct? A. It I I would agree that Dr. Miller's testing was not consistent with what the lab personnel reported. Q. If Jean Popwell didn't actually measure on Saturday, the 3rd, how would that impact your opinions? A. If if the tank was not filled at that point? Q. Correct.
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18	in two fashions: One through the crack, and one through boil off; correct? A. The 22 inches? Q. I'm sorry. The let me restate the the question. You believe the 22 inches of liquid nitrogen migrated into the vacuum space as gas or liquid or both and also boiled off during that period of time; correct? A. Well, Mr. Duffy, I don't believe there were 22 inches of liquid nitrogen in the tank. Q. Sorry. There was 14 inches of liquid nitrogen is what you assumed; correct? A. That's not what I assumed; that's that's what Jean Popwell reported that she Q. You have to assume that's accurate; right? A. I'm assuming that's reasonably accurate. Whether it was 13.8 or 14.2, I don't know, but I assume that it's I have no reason to believe that she's not GB truthful.	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18	Q. And there's been no testimony in this case that Tank 4 had any ice near the lid; correct? A. That's correct. Q. And there's no testimony in this case that the exterior skin of Tank 4 had condensation on it; correct? A. I nothing other than near the bottom is my recollection of the testimony. Q. Correct. So but unlike if you contrast it with Dr. Miller's testing, that condensation goes from the top all the way to the bottom; correct? A. It I I would agree that Dr. Miller's testing was not consistent with what the lab personnel reported. Q. If Jean Popwell didn't actually measure on Saturday, the 3rd, how would that impact your opinions? A. If if the tank was not filled at that point? Q. Correct. A. Then I would think that we have no idea,
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20	in two fashions: One through the crack, and one through boil off; correct? A. The 22 inches? Q. I'm sorry. The let me restate the the question. You believe the 22 inches of liquid nitrogen migrated into the vacuum space as gas or liquid or both and also boiled off during that period of time; correct? A. Well, Mr. Duffy, I don't believe there were 22 inches of liquid nitrogen in the tank. Q. Sorry. There was 14 inches of liquid nitrogen is what you assumed; correct? A. That's not what I assumed; that's that's what Jean Popwell reported that she Q. You have to assume that's accurate; right? A. I'm assuming that's reasonably accurate. Whether it was 13.8 or 14.2, I don't know, but I assume that it's I have no reason to believe that she's not GB truthful. Q. Okay. And you believe that that amount of	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20	Q. And there's been no testimony in this case that Tank 4 had any ice near the lid; correct? A. That's correct. Q. And there's no testimony in this case that the exterior skin of Tank 4 had condensation on it; correct? A. I nothing other than near the bottom is my recollection of the testimony. Q. Correct. So but unlike if you contrast it with Dr. Miller's testing, that condensation goes from the top all the way to the bottom; correct? A. It I I would agree that Dr. Miller's testing was not consistent with what the lab personnel reported. Q. If Jean Popwell didn't actually measure on Saturday, the 3rd, how would that impact your opinions? A. If if the tank was not filled at that point? Q. Correct. A. Then I would think that we have no idea, anyone, of knowing what the fill level may have been on
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21	in two fashions: One through the crack, and one through boil off; correct? A. The 22 inches? Q. I'm sorry. The let me restate the the question. You believe the 22 inches of liquid nitrogen migrated into the vacuum space as gas or liquid or both and also boiled off during that period of time; correct? A. Well, Mr. Duffy, I don't believe there were 22 inches of liquid nitrogen in the tank. Q. Sorry. There was 14 inches of liquid nitrogen is what you assumed; correct? A. That's not what I assumed; that's that's what Jean Popwell reported that she Q. You have to assume that's accurate; right? A. I'm assuming that's reasonably accurate. Whether it was 13.8 or 14.2, I don't know, but I assume that it's I have no reason to believe that she's not GB truthful. Q. Okay. And you believe that that amount of liquid nitrogen migrated into the vacuum space, in part;	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21	Q. And there's been no testimony in this case that Tank 4 had any ice near the lid; correct? A. That's correct. Q. And there's no testimony in this case that the exterior skin of Tank 4 had condensation on it; correct? A. I nothing other than near the bottom is my recollection of the testimony. Q. Correct. So but unlike if you contrast it with Dr. Miller's testing, that condensation goes from the top all the way to the bottom; correct? A. It I I would agree that Dr. Miller's testing was not consistent with what the lab personnel reported. Q. If Jean Popwell didn't actually measure on Saturday, the 3rd, how would that impact your opinions? A. If if the tank was not filled at that point? Q. Correct. A. Then I would think that we have no idea, anyone, of knowing what the fill level may have been on that date.
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22	in two fashions: One through the crack, and one through boil off; correct? A. The 22 inches? Q. I'm sorry. The let me restate the the question. You believe the 22 inches of liquid nitrogen migrated into the vacuum space as gas or liquid or both and also boiled off during that period of time; correct? A. Well, Mr. Duffy, I don't believe there were 22 inches of liquid nitrogen in the tank. Q. Sorry. There was 14 inches of liquid nitrogen is what you assumed; correct? A. That's not what I assumed; that's that's what Jean Popwell reported that she Q. You have to assume that's accurate; right? A. I'm assuming that's reasonably accurate. Whether it was 13.8 or 14.2, I don't know, but I assume that it's I have no reason to believe that she's not GB truthful. Q. Okay. And you believe that that amount of liquid nitrogen migrated into the vacuum space, in part; correct?	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22	Q. And there's been no testimony in this case that Tank 4 had any ice near the lid; correct? A. That's correct. Q. And there's no testimony in this case that the exterior skin of Tank 4 had condensation on it; correct? A. I nothing other than near the bottom is my recollection of the testimony. Q. Correct. So but unlike if you contrast it with Dr. Miller's testing, that condensation goes from the top all the way to the bottom; correct? A. It I I would agree that Dr. Miller's testing was not consistent with what the lab personnel reported. Q. If Jean Popwell didn't actually measure on Saturday, the 3rd, how would that impact your opinions? A. If if the tank was not filled at that point? Q. Correct. A. Then I would think that we have no idea, anyone, of knowing what the fill level may have been on that date. Q. What if she didn't measure on Friday, the 1st?
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23	in two fashions: One through the crack, and one through boil off; correct? A. The 22 inches? Q. I'm sorry. The let me restate the the question. You believe the 22 inches of liquid nitrogen migrated into the vacuum space as gas or liquid or both and also boiled off during that period of time; correct? A. Well, Mr. Duffy, I don't believe there were 22 inches of liquid nitrogen in the tank. Q. Sorry. There was 14 inches of liquid nitrogen is what you assumed; correct? A. That's not what I assumed; that's that's what Jean Popwell reported that she Q. You have to assume that's accurate; right? A. I'm assuming that's reasonably accurate. Whether it was 13.8 or 14.2, I don't know, but I assume that it's I have no reason to believe that she's not GB truthful. Q. Okay. And you believe that that amount of liquid nitrogen migrated into the vacuum space, in part; correct? A. I absolutely don't believe that that amount	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23	Q. And there's been no testimony in this case that Tank 4 had any ice near the lid; correct? A. That's correct. Q. And there's no testimony in this case that the exterior skin of Tank 4 had condensation on it; correct? A. I nothing other than near the bottom is my recollection of the testimony. Q. Correct. So but unlike if you contrast it with Dr. Miller's testing, that condensation goes from the top all the way to the bottom; correct? A. It I I would agree that Dr. Miller's testing was not consistent with what the lab personnel reported. Q. If Jean Popwell didn't actually measure on Saturday, the 3rd, how would that impact your opinions? A. If if the tank was not filled at that point? Q. Correct. A. Then I would think that we have no idea, anyone, of knowing what the fill level may have been on that date. Q. What if she didn't measure on Friday, the 1st? How would that impact your opinions?
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24	in two fashions: One through the crack, and one through boil off; correct? A. The 22 inches? Q. I'm sorry. The let me restate the the question. You believe the 22 inches of liquid nitrogen migrated into the vacuum space as gas or liquid or both and also boiled off during that period of time; correct? A. Well, Mr. Duffy, I don't believe there were 22 inches of liquid nitrogen in the tank. Q. Sorry. There was 14 inches of liquid nitrogen is what you assumed; correct? A. That's not what I assumed; that's that's what Jean Popwell reported that she Q. You have to assume that's accurate; right? A. I'm assuming that's reasonably accurate. Whether it was 13.8 or 14.2, I don't know, but I assume that it's I have no reason to believe that she's not GB truthful. Q. Okay. And you believe that that amount of liquid nitrogen migrated into the vacuum space, in part; correct? A. I absolutely don't believe that that amount migrated into the vacuum space.	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24	Q. And there's been no testimony in this case that Tank 4 had any ice near the lid; correct? A. That's correct. Q. And there's no testimony in this case that the exterior skin of Tank 4 had condensation on it; correct? A. I nothing other than near the bottom is my recollection of the testimony. Q. Correct. So but unlike if you contrast it with Dr. Miller's testing, that condensation goes from the top all the way to the bottom; correct? A. It I I would agree that Dr. Miller's testing was not consistent with what the lab personnel reported. Q. If Jean Popwell didn't actually measure on Saturday, the 3rd, how would that impact your opinions? A. If if the tank was not filled at that point? Q. Correct. A. Then I would think that we have no idea, anyone, of knowing what the fill level may have been on that date. Q. What if she didn't measure on Friday, the 1st? How would that impact your opinions? A. Again, I mean, I my opinion would be that
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23	in two fashions: One through the crack, and one through boil off; correct? A. The 22 inches? Q. I'm sorry. The let me restate the the question. You believe the 22 inches of liquid nitrogen migrated into the vacuum space as gas or liquid or both and also boiled off during that period of time; correct? A. Well, Mr. Duffy, I don't believe there were 22 inches of liquid nitrogen in the tank. Q. Sorry. There was 14 inches of liquid nitrogen is what you assumed; correct? A. That's not what I assumed; that's that's what Jean Popwell reported that she Q. You have to assume that's accurate; right? A. I'm assuming that's reasonably accurate. Whether it was 13.8 or 14.2, I don't know, but I assume that it's I have no reason to believe that she's not GB truthful. Q. Okay. And you believe that that amount of liquid nitrogen migrated into the vacuum space, in part; correct? A. I absolutely don't believe that that amount	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23	Q. And there's been no testimony in this case that Tank 4 had any ice near the lid; correct? A. That's correct. Q. And there's no testimony in this case that the exterior skin of Tank 4 had condensation on it; correct? A. I nothing other than near the bottom is my recollection of the testimony. Q. Correct. So but unlike if you contrast it with Dr. Miller's testing, that condensation goes from the top all the way to the bottom; correct? A. It I I would agree that Dr. Miller's testing was not consistent with what the lab personnel reported. Q. If Jean Popwell didn't actually measure on Saturday, the 3rd, how would that impact your opinions? A. If if the tank was not filled at that point? Q. Correct. A. Then I would think that we have no idea, anyone, of knowing what the fill level may have been on that date. Q. What if she didn't measure on Friday, the 1st? How would that impact your opinions?

	Page 50	Pi	age 52
1	contributing factor to loss of liquid nitrogen.	1 into his testing, ice was forming near the top of the	
2	I just don't see any evidence of that.	2 lid; correct?	
3	MS. ZEMAN: John, we've been going about an	3 A. I don't remember the exact time period, but	
4	hour. Can we take a five- or ten-minute break in the	4 I I thought it was within three hours or something	
5	near future?	5 along those lines.	
6	MR. DUFFY: Yes.	6 Q. And then when he came in the next morning,	
7	MS. ZEMAN: You want to do that now?	7 there was still ice, even more of it than when he left.	
8	MR. DUFFY: Thank you. Sure. That's great.	8 Look at the comparison of those photographs.	
9	THE VIDEOGRAPHER: We are going off the record	9 A. I I recall that.	
10	at 11:06 a.m., Pacific Standard Time.	10	
11	(Recess taken.)		
12	THE VIDEOGRAPHER: We are now going back on		
13	the record. The time is 11:15 a.m., Pacific Standard		
14	Time.		
15	BY MR. DUFFY:		
16	Q. Dr. Kasbekar, I was asking you before we took		
17	a break about some of the testing that Dr. Miller did,		
18	and I'd like to ask you some more questions about that.		
19	A. Sure.		
20	Q. In in your theory, we assume Jean Popwell		
21	measured actually measured on Saturday, the 3rd, and		
22	got a 14-inch measure; correct?		
23	A. That's correct.		
24	Q. And by mid day on Sunday, the 4th,		
25	Dr. Conaghan observed only ice at the bottom of of		
		_	
	Page 51		
1	Page 51 the freezer and gets a manual measurement of about one		
1 2			
	the freezer and gets a manual measurement of about one		
2	the freezer and gets a manual measurement of about one inch; is that right?		
2	the freezer and gets a manual measurement of about one inch; is that right? A. I I don't recall him saying he observed		
2 3 4	the freezer and gets a manual measurement of about one inch; is that right? A. I I don't recall him saying he observed only ice, but I do recall that he got somewhere around a		
2 3 4 5	the freezer and gets a manual measurement of about one inch; is that right? A. I I don't recall him saying he observed only ice, but I do recall that he got somewhere around a inch or less.		
2 3 4 5	the freezer and gets a manual measurement of about one inch; is that right? A. I I don't recall him saying he observed only ice, but I do recall that he got somewhere around a inch or less. Q. Okay. And that 13 inches of liquid nitrogen		
2 3 4 5 6 7	the freezer and gets a manual measurement of about one inch; is that right? A. I I don't recall him saying he observed only ice, but I do recall that he got somewhere around a inch or less. Q. Okay. And that 13 inches of liquid nitrogen went somewhere between about 2:30 on Saturday and about 12:20 on Sunday; fair? A. I would agree with that.		
2 3 4 5 6 7 8 9	the freezer and gets a manual measurement of about one inch; is that right? A. I I don't recall him saying he observed only ice, but I do recall that he got somewhere around a inch or less. Q. Okay. And that 13 inches of liquid nitrogen went somewhere between about 2:30 on Saturday and about 12:20 on Sunday; fair? A. I would agree with that. Q. And Dr. Miller ended up spoiling the vacuum		
2 3 4 5 6 7 8	the freezer and gets a manual measurement of about one inch; is that right? A. I I don't recall him saying he observed only ice, but I do recall that he got somewhere around a inch or less. Q. Okay. And that 13 inches of liquid nitrogen went somewhere between about 2:30 on Saturday and about 12:20 on Sunday; fair? A. I would agree with that. Q. And Dr. Miller ended up spoiling the vacuum completely in his test; correct?		
2 3 4 5 6 7 8 9	the freezer and gets a manual measurement of about one inch; is that right? A. I I don't recall him saying he observed only ice, but I do recall that he got somewhere around a inch or less. Q. Okay. And that 13 inches of liquid nitrogen went somewhere between about 2:30 on Saturday and about 12:20 on Sunday; fair? A. I would agree with that. Q. And Dr. Miller ended up spoiling the vacuum completely in his test; correct? A. That's my understanding. He put one		
2 3 4 5 6 7 8 9 10	the freezer and gets a manual measurement of about one inch; is that right? A. I I don't recall him saying he observed only ice, but I do recall that he got somewhere around a inch or less. Q. Okay. And that 13 inches of liquid nitrogen went somewhere between about 2:30 on Saturday and about 12:20 on Sunday; fair? A. I would agree with that. Q. And Dr. Miller ended up spoiling the vacuum completely in his test; correct? A. That's my understanding. He put one atmosphere pressure in there.		
2 3 4 5 6 7 8 9 10 11	the freezer and gets a manual measurement of about one inch; is that right? A. I I don't recall him saying he observed only ice, but I do recall that he got somewhere around a inch or less. Q. Okay. And that 13 inches of liquid nitrogen went somewhere between about 2:30 on Saturday and about 12:20 on Sunday; fair? A. I would agree with that. Q. And Dr. Miller ended up spoiling the vacuum completely in his test; correct? A. That's my understanding. He put one atmosphere pressure in there. Q. And the vacuum seal would lose all its vacuum		
2 3 4 5 6 7 8 9 10 11 12	the freezer and gets a manual measurement of about one inch; is that right? A. I I don't recall him saying he observed only ice, but I do recall that he got somewhere around a inch or less. Q. Okay. And that 13 inches of liquid nitrogen went somewhere between about 2:30 on Saturday and about 12:20 on Sunday; fair? A. I would agree with that. Q. And Dr. Miller ended up spoiling the vacuum completely in his test; correct? A. That's my understanding. He put one atmosphere pressure in there. Q. And the vacuum seal would lose all its vacuum properties; correct?		
2 3 4 5 6 7 8 9 10 11 12 13	the freezer and gets a manual measurement of about one inch; is that right? A. I I don't recall him saying he observed only ice, but I do recall that he got somewhere around a inch or less. Q. Okay. And that 13 inches of liquid nitrogen went somewhere between about 2:30 on Saturday and about 12:20 on Sunday; fair? A. I would agree with that. Q. And Dr. Miller ended up spoiling the vacuum completely in his test; correct? A. That's my understanding. He put one atmosphere pressure in there. Q. And the vacuum seal would lose all its vacuum properties; correct? A. That's correct.		
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17	the freezer and gets a manual measurement of about one inch; is that right? A. I I don't recall him saying he observed only ice, but I do recall that he got somewhere around a inch or less. Q. Okay. And that 13 inches of liquid nitrogen went somewhere between about 2:30 on Saturday and about 12:20 on Sunday; fair? A. I would agree with that. Q. And Dr. Miller ended up spoiling the vacuum completely in his test; correct? A. That's my understanding. He put one atmosphere pressure in there. Q. And the vacuum seal would lose all its vacuum properties; correct? A. That's correct. Q. It would no longer be able to keep cryogenic		
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18	the freezer and gets a manual measurement of about one inch; is that right? A. I I don't recall him saying he observed only ice, but I do recall that he got somewhere around a inch or less. Q. Okay. And that 13 inches of liquid nitrogen went somewhere between about 2:30 on Saturday and about 12:20 on Sunday; fair? A. I would agree with that. Q. And Dr. Miller ended up spoiling the vacuum completely in his test; correct? A. That's my understanding. He put one atmosphere pressure in there. Q. And the vacuum seal would lose all its vacuum properties; correct? A. That's correct. Q. It would no longer be able to keep cryogenic temperatures; correct?		
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18	the freezer and gets a manual measurement of about one inch; is that right? A. I I don't recall him saying he observed only ice, but I do recall that he got somewhere around a inch or less. Q. Okay. And that 13 inches of liquid nitrogen went somewhere between about 2:30 on Saturday and about 12:20 on Sunday; fair? A. I would agree with that. Q. And Dr. Miller ended up spoiling the vacuum completely in his test; correct? A. That's my understanding. He put one atmosphere pressure in there. Q. And the vacuum seal would lose all its vacuum properties; correct? A. That's correct. Q. It would no longer be able to keep cryogenic temperatures; correct? A. Well, I don't wouldn't say "would no longer		
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20	the freezer and gets a manual measurement of about one inch; is that right? A. I I don't recall him saying he observed only ice, but I do recall that he got somewhere around a inch or less. Q. Okay. And that 13 inches of liquid nitrogen went somewhere between about 2:30 on Saturday and about 12:20 on Sunday; fair? A. I would agree with that. Q. And Dr. Miller ended up spoiling the vacuum completely in his test; correct? A. That's my understanding. He put one atmosphere pressure in there. Q. And the vacuum seal would lose all its vacuum properties; correct? A. That's correct. Q. It would no longer be able to keep cryogenic temperatures; correct? A. Well, I don't wouldn't say "would no longer be able to." I mean, you've got liquid nitrogen in		
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21	the freezer and gets a manual measurement of about one inch; is that right? A. I I don't recall him saying he observed only ice, but I do recall that he got somewhere around a inch or less. Q. Okay. And that 13 inches of liquid nitrogen went somewhere between about 2:30 on Saturday and about 12:20 on Sunday; fair? A. I would agree with that. Q. And Dr. Miller ended up spoiling the vacuum completely in his test; correct? A. That's my understanding. He put one atmosphere pressure in there. Q. And the vacuum seal would lose all its vacuum properties; correct? A. That's correct. Q. It would no longer be able to keep cryogenic temperatures; correct? A. Well, I don't wouldn't say "would no longer be able to." I mean, you've got liquid nitrogen in there that's keeping things cold, but, certainly, you've		
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22	the freezer and gets a manual measurement of about one inch; is that right? A. I I don't recall him saying he observed only ice, but I do recall that he got somewhere around a inch or less. Q. Okay. And that 13 inches of liquid nitrogen went somewhere between about 2:30 on Saturday and about 12:20 on Sunday; fair? A. I would agree with that. Q. And Dr. Miller ended up spoiling the vacuum completely in his test; correct? A. That's my understanding. He put one atmosphere pressure in there. Q. And the vacuum seal would lose all its vacuum properties; correct? A. That's correct. Q. It would no longer be able to keep cryogenic temperatures; correct? A. Well, I don't wouldn't say "would no longer be able to." I mean, you've got liquid nitrogen in there that's keeping things cold, but, certainly, you've lost your effective vacuum insulation.		
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23	the freezer and gets a manual measurement of about one inch; is that right? A. I I don't recall him saying he observed only ice, but I do recall that he got somewhere around a inch or less. Q. Okay. And that 13 inches of liquid nitrogen went somewhere between about 2:30 on Saturday and about 12:20 on Sunday; fair? A. I would agree with that. Q. And Dr. Miller ended up spoiling the vacuum completely in his test; correct? A. That's my understanding. He put one atmosphere pressure in there. Q. And the vacuum seal would lose all its vacuum properties; correct? A. That's correct. Q. It would no longer be able to keep cryogenic temperatures; correct? A. Well, I don't wouldn't say "would no longer be able to." I mean, you've got liquid nitrogen in there that's keeping things cold, but, certainly, you've lost your effective vacuum insulation. Q. And that will cause LN2 to boil off; correct?		
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18	the freezer and gets a manual measurement of about one inch; is that right? A. I I don't recall him saying he observed only ice, but I do recall that he got somewhere around a inch or less. Q. Okay. And that 13 inches of liquid nitrogen went somewhere between about 2:30 on Saturday and about 12:20 on Sunday; fair? A. I would agree with that. Q. And Dr. Miller ended up spoiling the vacuum completely in his test; correct? A. That's my understanding. He put one atmosphere pressure in there. Q. And the vacuum seal would lose all its vacuum properties; correct? A. That's correct. Q. It would no longer be able to keep cryogenic temperatures; correct? A. Well, I don't wouldn't say "would no longer be able to." I mean, you've got liquid nitrogen in there that's keeping things cold, but, certainly, you've lost your effective vacuum insulation.		



```
Page 58
                                                                                                             Page 60
 1
              MR. DUFFY: Sure. We'd like a rough and an
                                                            1
                                                                 30(f)(1)).
                                                            2
    expedited, if we could.
                                                                         Before completion of the deposition, review of
 3
             MS. ZEMAN: I'd like an expedited, if we could
                                                            3
                                                                the transcript [xx] was [ ] was not requested. If
    get that within the next two days.
                                                                requested, any changes made by the deponent (and
 5
               THE REPORTER: Sure.
                                                            5
                                                                provided to the reporter) during the period allowed, are
 6
               The same, Mr. Duffy?
                                                            6
                                                                appended hereto. (Fed. R. Civ. P. 38(e)).
               MR. DUFFY: Yeah, that would be great.
                                                            7
              THE VIDEOGRAPHER: This now ends the remote
                                                            8
 9
    deposition through Zoom. We are going off the record at
                                                            9
                                                                Dated: December 16, 2020
    11:26 a.m., Pacific Standard Time.
                                                           10
11
                                                           11
               Thank you, counsel, and thank you to our
12
    witness.
                                                           12
13
               (Deposition concluded at 11:26 a.m.)
                                                           13
14
                            ---000---
                                                           14
                                                                                          CONNIE MARTIN DUNNE, RPR
15
                                                           15
                                                                                            CSR No. 6245
16
                 I have read the foregoing deposition
                                                           16
17
     transcript and by signing hereafter, subject to
                                                           17
18
                                                           18
     any changes I have made, approve same.
19
                                                           19
20
     Dated_
                                                           20
21
                                                           21
22
                                                           22
23
                                                           23
                                 (Signature of Deponent)
24
                                                           24
25
                                                           25
                                                  Page 59
 1
                  DEPOSITION OFFICER'S CERTIFICATE
 2
     STATE OF CALIFORNIA
                                    SS.
 3
     COUNTY OF CONTRA COSTA
 4
 5
 6
                I, Connie Martin Dunne, hereby certify:
 7
               I am a duly qualified Certified Shorthand
 8
     Reporter in the State of California, holder of
 9
     Certificate Number CSR 6245 issued by the Court
10
     Reporters Board of California and which is in full force
11
     and effect. (Fed. R. Civ. P. 28(a)).
12
                I am authorized to administer oaths or
13
     affirmations pursuant to California Code of Civil
14
     Procedure, Section 2093(b) and prior to GB examined, the
15
     witness was first duly sworn by me. (Fed. R. Civ. P.
16
     28(a), 30(f)(1)).
17
              I am not a relative or employee or attorney or
18
     counsel of any of the parties, nor am I a relative or
19
     employee of such attorney or counsel, nor am I
20
     financially interested in this action. (Fed. R. Civ. P.
21
     28).
22
                I am the deposition officer that
23
     stenographically recorded the testimony in the foregoing
24
     deposition and the foregoing transcript is a true record
25
     of the testimony given by the witness. (Fed. R. Civ. P.
```

	42.11.45.10.40.11.	7.10	hadaalla (2)	15.5.50.4.17
ф	- 43:11;45:18;49:11; 51:9;55:8,9	7:12 approach (1)	basically (3) 16:17;33:7;53:12	15:5;50:4,17 breaking (1)
\$		33:1	basis (1)	40:20
	- agreement (1) 7:25		41:22	
\$20,000 (1)		appropriate (1)		bubbling (1)
11:16	ahead (1)	17:10	beam (3)	45:11
	6:20	approximately (1) 5:10	39:1;40:19;42:21	buckling (1) 36:9
\mathbf{A}	Air (1) 9:23		bear (1) 17:2	
		area (4) 8:23;35:11;39:13,16		buildup (1) 53:23
ability (1)	air-conditioned (1) 53:22		become (2)	
38:22	aircraft (4)	around (2)	34:7,8	busy (1)
able (2)	` ,	9:4;51:4	began (1) 9:13	20:3
51:17,20	9:21,21,23;10:2	assembled (2)		C
above (8)	allow (5)	18:5;28:14	Beginning (1)	C
13:6;18:6;27:17;	7:4;36:24;41:7,24; 42:11	associated (2) 5:6;10:10	35:12 behalf (3)	coloulete (5)
28:3,7,14,20,20			5:16,20,22	calculate (5)
absence (4)	allowing (1) 37:22	assume (5)		11:22,24;12:4,8,9
39:11;52:24;53:17;		17:22;19:6;47:15,17; 50:20	believing (1) 55:25	calculated (10)
55:2	alluding (1) 40:15			14:15;15:9;18:14;
absolutely (2)		assumed (4)	below (3)	20:13,21;21:6;22:15;
8:17;47:23	alone (1)	16:15;17:21;47:12,	13:9;26:20;27:24	29:21;33:4,10
account (10)	8:16 along (7)	13	bend (8) 37:20,22;39:5,9,15;	calculation (11)
15:16,18;16:11;		assumes (1) 12:15		14:13,24;15:15;
18:15,18,23;19:19;	11:23;12:4,10;14:17;		40:4;41:5;42:5	16:10,14;17:13,22;
20:25;28:6;39:18	15:11;30:1;52:5	assuming (3)	bending (1) 42:7	19:6,19;22:18;32:19
accounted (1)	Altair (6)	14:9;26:18;47:16		calculations (4)
22:6	7:9,11,13;8:5;9:13, 15	assumption (2) 32:6;56:2	bends (3)	15:2,3;20:20;24:22
accounting (1)	ambient (1)	assumptions (3)	37:14;38:24;39:11	California (2)
57:12	12:19	12:13;20:19;26:15	Besides (1) 23:22	5:7,8 call (1)
accumulates (1)	amount (3)	atmosphere (1)	best (3)	28:21
41:20	45:13;47:20,23	51:13	10:16;13:18;22:7	called (3)
accurate (4)	43.13,47.20,23 Amy (1)	attack (1)	Beyond (1)	6:7;16:5,24
20:25;26:1;47:15,16	5:20	41:22	12:6	came (2)
acquire (1)	analysis (28)	attempt (1)	big (2)	13:3;52:6
7:7	7:1,5,8,10,19;8:24;	52:17	7:16;22:4	can (19)
actually (6)	9:25;10:24;15:4;16:21;	attempts (1)	bigger (2)	5:25;11:21;19:18;
11:7;13:7;36:12;	20:7,8,15;21:11,20,21;	53:12	21:13;27:16	24:18,21;27:21,23;
39:21;49:14;50:21	22:7,13;25:7,22;26:8;	attorney (1)	bit (2)	33:18;37:17;39:4;40:5,
added (1)	29:23;30:4;31:9;38:20,	13:8	14:21;19:14	12,14;41:16,19;42:6;
12:17	25;39:4;41:15	aware (2)	blunt (5)	50:4;53:6,25
addition (1)	Anand (2)	41:19;56:11	34:7,8,13,15,16	care (1)
22:4	5:15;6:6	11.17,50.11	blunting (1)	35:3
additional (4)	and/or (1)	В	35:3	Case (10)
23:4,17;35:17;44:13	46:18		boil (7)	5:14;9:16,19,20;
admit (1) 20:24	and-a-half (2)	bachelor's (1)	46:1,20;47:2;48:1,7;	10:1;12:24;49:1,4;
advocating (1)	29:18,19	8:21	51:23:54:1	53:5;56:12
39:8	angle (4)	Back (8)	boiled (3)	Catch (1)
affect (3)	38:10;40:17,17;	7:15;11:16;33:19;	44:25;45:1;47:8	23:9
. ,	41:23	35:5;38:2;39:6;45:11;	both (2)	cause (11)
39:23;53:22,24	answered (4)	50:12	45:2;47:7	21:16;33:25;34:13;
affirmed (1) 6:8	14:19;16:14;31:12;	ball (3)	bottom (13)	35:3;48:12;51:23;53:6;
o:8 again (19)	43:16	38:13,14;48:19	11:23;12:5,11;14:17;	54:1,2,20;56:18
6:18;16:23;19:5;	apparently (1)	ballpark (1)	15:11;23:11;24:6;	Caused (6)
22:17;23:13;24:21;	42:6	25:2	35:10;38:11;42:12;	16:24;23:3,16,24;
27:17;29:24;31:14;	appeared (1)	balls (2)	49:6,10;50:25	35:16;55:15
34:22;40:2;42:18,22;	6:5	38:8;40:9	bought (1)	causes (1)
	appendix (1)	bar (3)	11:8	52:11
43:15;45:18;46:17;	30:3	9:21,23;10:2	boundaries (1)	Center (1)
49:24;56:21,23 ago (3)	applied (2)	Barkley (1)	44:17	5:13
	33:14,22	5:6	breach (7)	certain (1)
9:18;13:4;56:16 agree (13)	applying (1)	based (5)	45:8;46:6,23;52:18,	52:21
12:12;20:23;21:10;	24:7	7:13;14:15;15:9,13;	25;53:17;57:12	certainly (5)
	A CONTRACTOR OF THE CONTRACTOR			
25:25;26:15,21;32:1;	appreciate (1)	22:21	break (3)	18:1;39:10,20;51:21;

CENTER LITIGATION			I	December 13, 202
55:17	compared (2)	34:16;38:20;40:3;	6:3	deform (1)
Certified (1)	16:16;53:21	42:13	curriculum (1)	34:3
6:4	comparison (1)	continue (3)	10:4	delete (1)
chance (2)	52:8	11:3,9,11	Customer (2)	52:12
20:6,17				delivered (1)
,	completed (1)	contract (1)	18:10,10	
change (20)	9:11	41:8	cut (1)	27:12
14:14;15:15;16:10;	completely (6)	contracting (1)	34:11	demonstrate (1)
17:19,22;18:16;19:6;	22:6;32:7;37:23;	26:20	CV (1)	38:22
20:20,21;22:14,19;	38:20;43:23;51:11	contraction (17)	10:7	demonstrates (1)
25:11,12,21,23;30:9;	complex (1)	12:18;16:6,25;17:15;	cycle (3)	17:17
33:3;37:5,19;45:21	9:10	18:18;26:5,9,12,16;	31:9,14;34:18	Department (5)
changed (1)	complies (3)	29:9,11,13,16,18;	cycles (1)	7:24;9:5,12;10:6,17
25:6	22:25;35:7;37:2	39:17;40:6;42:24	27:20	depend (1)
changes (2)	compound (1)	contracts (2)	cyclic (3)	11:19
17:23;19:7	14:22	7:24;8:2	18:11;33:13,22	dependence (2)
changing (1)	compressive (1)	contrast (2)	cycling (2)	15:16;16:11
25:20	24:15	33:9;49:8	26:8,10	depends (3)
Chart (5)	Computing (3)	contributing (1)		54:15,16,17
5:22;30:7,13,17;	7:9,11,13	50:1	\mathbf{D}	deplete (1)
41:12	Conaghan (3)	controller (1)		54:20
Chart's (3)	36:6;44:21;50:25	31:4	dam (3)	depleted (1)
5:16;13:7;53:21	concentrator (4)	convinced (1)	38:12,14;41:1	47:25
chase (1)	33:13,21;34:15,21	40:1	damage (5)	depleting (1)
34:11	concern (1)	cool (1)	23:4,17,23,25;35:17	55:7
chat (1)	20:12	29:8	dams (1)	depletion (10)
6:22	conclusion (7)	cooled (1)	38:7	43:6,21;44:2,4,16;
check (1)	20:19;43:13;52:22;	31:19		48:12;52:15;53:14;
57:14	54:19,23;55:10,15		dangers (1) 38:12	
		cooling (1)		54:25;55:6
clarification (2)	condensation (3)	29:5	darn (1)	deposition (4)
10:11;33:16	48:21;49:5,9	cooperative (1)	34:17	5:12,15;7:3;9:3
clear (5)	condition (2)	7:25	data (9)	design (11)
17:21;38:3,19;39:2,2	26:21;36:20	copy (1)	13:2,5,15;17:15;	37:5,11,13;38:13;
client's (1)	conditions (2)	6:21	26:22,25;27:1;31:2;	39:5,8,18,21;40:22;
41:12	37:23;54:15	correctly (2)	56:13	42:14,16
clinic (3)	conductivity (1)	12:17;26:5	date (2)	designed (1)
52:24;53:13,14	11:19	counsel (4)	5:9;49:21	38:3
clinical (1)	confirm (1)	5:16,18,23;57:16	dates (3)	detail (2)
43:12	46:7	counsels (1)	13:11,13,15	15:18;56:17
close (4)	CONNIE (2)	5:17	day (6)	determine (4)
16:21;18:13;24:8;	6:3;46:8	count (1)	36:8,13,21;50:24;	29:22;30:13;56:24;
25:22	cons (1)	55:18	53:6,7	57:7
closer (1)	39:25	couple (1)	days (3)	Detroit (1)
19:22	conservative (1)	17:4	27:23,25;28:2	7:14
code (1)	25:19	Court (3)	dealing (2)	difference (12)
9:10	consider (2)	5:6,24;33:18	21:14;39:16	12:22;16:1;19:19,24;
coefficient (10)	31:21,24	crack (20)	December (6)	21:5;22:4,11;24:25;
11:19;15:17,21;	considering (2)	34:1,1,4,13,15,20;	5:2,9;6:2;20:10;	52:14,23;54:17;57:11
16:12,15,16;19:11,20;	39:10;52:24	35:4;45:9;47:1;52:10;	23:14;27:8	differences (1)
22:12,22	consistent (4)	53:6,7,8,9,25;54:9,19;	decide (1)	53:23
cold (3)	17:14;37:8,10;49:12	55:1,15,18	8:16	different (1)
18:9,11;51:21	constant (3)	cracked (1)	decision (2)	8:14
collected (1)		, ,		
` /	15:21;16:15;22:11	35:3	11:3,15	difficult (1)
48:24	constants (1)	create (5)	decreased (1)	57:3
combination (4)	30:3	24:14;37:19;38:7,17;	13:9	digest (1)
45:2,10,16;46:1	constrain (1)	39:21	defects (1)	20:17
coming (1)	28:18	critical (5)	22:8	directions (1)
25:5	contact (2)	43:4,12,19,22,25	Defendant (1)	24:12
commencing (1)	23:25;24:19	crux (2)	6:7	directly (2)
6:2	contains (1)	28:9,12	DEFENDANT'S (1)	21:20,21
comment (2)	13:22	cryogenic (8)	6:13	disagree (4)
21:15;57:2	contents (2)	9:1;17:16;37:11,13,	Defense (6)	21:17;32:25;34:10,
company (3)	55:2;57:6	25;38:4;42:24;51:17	7:25;8:2;9:5,12;10:6,	12
7:13,18,22	context (4)	CSR (1)	18	disagreeing (1)
		1		

<u>eenter en long</u>	1	T	1	
32:14	34:20	17:16;18:5	explain (5)	11:11
discrepancies (1)	DUNNE (1)	errors (1)	11:4;24:21;33:5;	Fertility (1)
56:22	6:3	20:19	39:11:53:25	5:13
discussing (1)	During (12)	ESI (4)	explained (1)	figure (8)
30:10	9:3;14:3,7;17:24,25;	15:2;21:22;30:3;	40:19	15:1;37:3,5;38:6,13;
Discussion (5)	18:1;19:8,10;31:21;	33:9	explanation (8)	40:18;41:10,25
10:12;33:17;37:9;		essentially (7)	43:6,20;46:3;53:16;	40:18;41:10,23 filed (1)
	36:3;37:9;47:8			20:9
38:1;39:6	E	9:13;16:6;24:6;30:2,	54:10,24;55:1;57:10	
dispute (1)	E	11,22;33:25	Exponent (2)	fill (38)
53:6	1. (4)	estimate (1)	38:2;39:7	11:23;12:4,10,20;
documentation (1)	earlier (1)	10:16	exposed (1)	13:20;14:2,4,6,8;17:24,
55:14	42:15	evaluate (2)	57:6	25;18:1,3,9,11;19:8,10;
dollars (1)	early (1)	27:21;57:1	exterior (2)	26:20;28:8,8;29:13,15;
11:13	38:2	evaluated (2)	48:21;49:5	31:9,14;32:1,7,8,11,12,
domineer (2)	education (1)	9:24,24	10	15,19,22,23;39:9,12;
9:10,10	8:19	evaporated (1)	\mathbf{F}	49:20;54:6;57:4
done (8)	effect (1)	44:8		filled (8)
9:14;15:2;25:5;29:7;	34:22	evaporation (5)	face (6)	27:13,20;28:16;32:4;
40:11;41:21;56:23;	effective (2)	44:5;46:22;55:13,16,	13:25;23:6,19;24:9,	44:10;49:16;55:11,22
57:15	51:22;52:15	19	16;35:19	filling (2)
door (2)	eight (3)	even (7)	facility (1)	39:22;57:4
32:2;38:4	23:11;35:9;55:11	22:9;34:9,15;38:1;	53:21	find (3)
double (1)	either (5)	43:7;51:25;52:7	fact (8)	53:7;55:24;57:2
22:8	22:6;36:3;38:15;	evidence (8)	12:19;15:24;17:18;	Fine (1)
down (9)	45:1;46:18	12:24;34:23;36:2;	28:7;29:9;43:10;57:3,	30:18
12:1,21;15:6;19:21;	elbow (1)	50:2;56:1,4,6,9	11	fingers (1)
21:1;24:8;36:24;42:12;	38:10	exact (5)	factor (2)	42:18
53:8	element (17)	21:21;38:23;48:6;	25:15;50:1	finite (17)
download (4)	7:1,5,19,19;8:24;	52:3,20	factory (3)	7:1,5,19,19;8:23;
13:2,5,16;31:2	9:25;10:23;14:25;15:1,	exactly (4)	18:9,17,24	9:25;10:23;14:25,25;
downward (1)	4;21:11,20,21,22;22:6;	9:7;10:3;21:9;30:2	failed (1)	15:4;21:11,20,21,22;
24:7	30:4;39:3	EXAMINATION (1)	9:21	22:6;30:4;39:3
Dr (34)	elements (2)	6:15	failing (1)	first (8)
5:15;6:17;12:15;	39:1;40:20	examined (1)	31:25	10:5;14:23;17:11;
15:3,25;16:8;18:14;	eliminate (1)	6:10	failure (3)	18:8,8;21:19;26:19;
19:25;21:24;26:1;	29:11	exceed (1)	17:5;21:16;39:13	36:18
33:10;36:6;41:2;43:5,	else (4)	27:8	fair (6)	fitting (10)
10,20;44:21;46:5,13;	8:18;30:5,8,21	exceeded (1)	12:3;13:18;27:24;	13:21,23,25;14:3,7;
48:9;49:9,11;50:16,17,	emptied (1)	13:16	37:13;46:16;51:8	24:8;28:19,24;29:4;
25;51:10,25;52:13,15;	32:7	Except (1)	fairly (4)	33:8
53:11;54:21;55:12;	end (6)	27:10	15:23;20:3,16;37:20	five (1)
56:7;57:8	10:10,13;24:11;	exemplar (2)	family (1)	25:15
drain (3)	37:23;53:7;54:23	48:17,22	9:22	five- (1)
41:20,24;42:12	ended (1)	EXHIBIT (2)	fashions (1)	50:4
drawing (3)	51:10	6:13,20	47:1	five-to-one (1)
30:7,14,17	ends (2)	expand (2)	fast (2)	25:15
drive (1)	39:12;54:8	38:18;41:8	44:7;55:7	fixed (1)
15:4	engineering (5)	expansion (11)	fatigue (3)	37:18
driving (3)	8:22;9:1;37:17;39:3;	11:19;15:16,22;	17:5;21:16;34:19	floor (1)
21:23;33:6,11	41:16	16:11,15,17;19:11,20;	FEA (25)	48:24
dual (1)	engineers (1)	20:13;22:12,22	7:22;8:9;9:14,16;	flow (1)
46:15	38:21	experience (1)	14:14;15:9;18:15,18,	38:15
ductile (2)	enough (4)	8:23	22;19:1;20:7,8,15;	follow (1)
33:15,24	21:16;33:15,24;	experiment (2)	22:15,19,21;25:25;	57:20
due (1)	38:16	43:11;53:11	29:23;31:3,9;33:2,4,7,	following (1)
47:25	entered (1)	expert (1)	8,9	19:4
DUFFY (20)	46:19	53:10	FEAs (1)	Footnote (2)
5:22,22;6:16,19;	entering (1)	experts (1)	9:4	42:25;43:3
10:15;11:4;14:23;15:8;	45:10	12:13	feature (1)	force (2)
31:16;33:20;41:2;	entire (6)	expert's (1)	6:22	33:6,11
46:11;47:9;50:6,8,15;	17:23;19:7;28:1;	17:20	6:22 feel (1)	forcing (1)
57:14,17,19,20	32:19;36:18;48:10	expired (1)	20:12	24:6
3/:14,17,19,20 duller (1)		11:1	fees (1)	forensic (1)
dunci (1)	equipment (2)	11.1	1005 (1)	TOT CHOIC (1)
-				

CENTER ETTIGITION				Beccinser 10, 2020
9:13	Gilbertsen (5)	19:3	23:4,17;35:17	21:11
form (3)	8:7,9,12,16,25	horizontal (8)	incorporates (1)	involve (2)
45:6;46:18;54:14	Gilbertson's (1)	40:10,22,25;41:4,6,7,	39:5	9:19;46:6
formed (1)	8:19	18;42:11	increase (1)	involved (1)
45:9	given (3)	host (1)	22:9	40:5
former (1)	18:19;21:24;46:3	5:5	increasing (4)	involving (1)
13:7	goes (5)	hour (3)	23:4,17,22;35:17	9:20
forming (1)	11:25;12:19;32:20;	6:2;50:4;51:25	indication (1)	issue (5)
52:1	49:9;54:13	hours (4)	34:13	10:1;11:9;12:18;
forth (2)	Good (2)	44:22,25;52:4;55:8	individual (1)	17:6;28:1
6:10;37:11	5:4;6:17	huge (2)	8:6	issues (1)
found (2)	graph (2)	16:1;21:4	induce (1)	53:19
20:19;53:5	16:6,7	humidity (1)	33:3	
four (3)	great (2)	53:20	induces (1)	J
27:14,23,25	50:8;56:17	Hyper (1)	52:15	
four-to-one (1)	greater (3)	7:16	influence (1)	January (1)
25:15	33:14,23;53:14		21:19	27:7
fracture (16)	grossly (3)	I	initial (4)	Jean (4)
9:23;22:10;23:5,18,	56:1,4,9		18:1,3;31:9,13	47:14;49:14;50:20;
23,23;24:1,4,9,10,19;	guess (2)	ice (13)	initially (1)	57:9
34:9,16;35:18,20;	8:14;43:23	38:7,7,12,13,14;	24:13	job (1)
38:18	· · · · · · · · · · · · · · · · · · ·	40:9;41:1;48:19;49:2;	initiate (1)	49:25
Francisco (1)	H	50:25;51:4;52:1,7	35:19	John (2)
5:7		idea (2)	initiated (1)	5:22;50:3
frankly (3)	half (2)	36:16;49:19	22:10	jury (1)
18:6;29:2;46:5	16:2;25:14	ideal (1)	inner (8)	57:7
freezer (4)	hand (3)	38:24	13:21;14:3,7;24:6;	
28:3;39:22;48:17;	14:24;15:3;16:14	identical (2)	45:12;46:24;52:25;	K
51:1	handle (2)	16:20;54:7	55:2	
Friday (1)	39:14,15	IDENTIFICATION (1)	input (4)	Kasbekar (5)
49:22	handled (1)	6:14	14:14,25;21:22;	5:16;6:6,17;46:13;
front (1)	37:23	identify (1)	22:15	50:16
6:22	happen (3)	5:19	inputs (7)	keep (1)
frost (1)	33:12,21;41:19	impact (3)	8:8,15,16;29:22,24;	51:17
53:22	happened (3)	34:18;49:15,23	30:13;31:3	keeping (1)
function (2)	46:4;52:21,24	imparted (1)	inputting (1)	51:21
19:20;22:1	happening (1)	39:4	33:11	kept (1)
fundamental (1)	40:1	impede (1)	inside (6)	12:25
41:15	happens (3)	38:15	27:20;45:8;46:6,15;	key (1)
fundamentals (1)	18:9;19:1;54:9	implied (1)	55:2;57:12	22:13
39:3	hard (1)	17:19	inspection (1)	kind (2)
further (1)	55:24	implosion (14)	28:22	17:17;37:8
22:9	height (1)	23:3,16,24;24:5;	inspections (1)	King (1)
future (1)	32:13	35:12,16,19,23,25,25;	37:9	9:22
50:5	Heinz (1)	36:1,2,12;52:11	instances (1)	knew (1)
	9:22	imply (1)	27:7	25:4
${f G}$	help (4)	42:9	instead (4)	knowable (2)
	8:11;31:2,8,8	implying (1)	40:12,13;42:17,20	26:22,25
gas (5)	helps (1)	41:3	insulation (1)	knowing (1)
45:10,16;46:18;47:7;	46:7	important (1)	51:22	49:20
48:2	hereinafter (1)	31:9	integrated (1)	knowledge (1)
gave (1)	6:10	improvements (1)	16:16	22:7
8:15	Hey (1)	11:10	interior (1)	Knowles (1)
GB (9)	41:23	inch (3)	53:17	5:5
5:16;17:6;34:16;	high (2)	44:13;51:2,5	into (35)	known (1)
40:12,13;42:20;44:18;	33:15,23	inches (29)	9:22;18:11,15,18,22;	17:6
46:7;47:19	higher (2)	12:16,25;13:6,10,17,	20:25;21:20,21,22;	
general (2)	22:16;54:25	22;14:10;26:19,19;	22:19;28:6,8;32:2;	\mathbf{L}
13:18;20:12	higher-than-normal (1)	27:9,14,24;28:4,7;	34:9;39:18,22;43:8;	
geometry (1)	46:22	29:10;32:17,23;44:11,	45:1,10,12,13,17,24;	lab (4)
30:22	hold (3)	13,18;46:25;47:3,6,10,	46:2,15,19;47:7,21,24;	49:12;53:22;56:19,
gets (4)	17:8;23:7;44:1	11;51:6;55:7,11;57:5	48:3,4,7;52:1;54:3,13	24
18:10,11;46:9;51:1	honest (1)	including (3)	invalidates (1)	language (1)
, , ,	` '	6 (-7	,	0 ·· · · · 0 · · (=/

CENTER LITIGATION	1			December 15, 2020
21:7	10:7	maintained (2)	measured (4)	misstates (1)
large (3)	literature (2)	10:23;13:6	29:17,20;50:21,21	46:10
9:9;21:16;22:5	39:2;41:14	maintaining (1)	measurement (3)	MIST (1)
larger (3)	Litigation (1)	9:8	27:5;44:18;51:1	16:7
19:11,14;20:22	5:14	maintains (1)	measuring (2)	mitigate (6)
last (7)	little (3)	27:4	49:25;56:20	37:21;38:23;39:4;
7:3;9:3,15;10:5,9,22;	8:14;14:21;19:14	maintenance (1)	mechanical (2)	40:5;41:16;42:6
17:11	LN (2)	11:11	37:17;39:2	model (3)
later (1)	14:16;15:11	major (2)	mechanics (3)	40:20;42:21;52:17
28:16	LN2 (14)	10:5;36:1	8:22;34:10,16	modelled (1)
leak (1)	13:22;14:1;17:23;	makes (2)	memory (1)	40:4
52:16	18:16,23;19:7,12,15;	19:2;22:15	36:19	moisture (2)
least (2)	27:8;28:7;32:20,24;	making (1)	Mesh (1)	41:20;42:11
10:7;27:25	44:7;51:23	45:13	7:16	moment (1)
leave (2)	load (6)	manner (3)	meshing (2)	24:17
29:10;57:5	24:7,15,15;33:13,22;	18:19;20:13;43:14	7:19;9:11	money (1)
left (1)	38:23	manual (1)	metadata (1)	41:12
52:7	loading (2)	51:1	56:14	monotonic (2)
leg (2)	33:4,7	manually (1)	metal (3)	33:15,24
41:6;42:11	localized (1)	56:19	11:20;24:11;37:18	more (20)
length (15)	35:4	manufactured (6)	metal's (1)	13:22;14:5;17:10;
11:23;12:5;14:13;	located (1)	18:20;27:10,17;	11:18	25:19;26:1;39:18;
15:15;16:10;17:22;	5:6	28:13;31:15,18	methodology (1)	42:16,21;44:4;48:1;
19:6;20:20,21;22:14,	logged (2)	many (1)	15:25	50:18;51:24;52:7,12;
19;25:23;30:6,16;	55:22;56:22	24:1	Michigan (1)	54:1,2,20;55:15,18;
41:18	logical (5)	March (2)	7:14	57:5
less (3)	43:14;46:3;52:21;	36:8;44:22	mid (4)	morning (4)
25:14;34:21;51:5	53:16;55:17	MARKED (2)	36:8,13,21;50:24	5:4;6:17;36:14;52:6
level (10)	long (4)	6:14,20	middle (1)	most (1)
13:9;27:5;32:16;	14:20;40:10;41:18;	MARTIN (1)	35:9	44:13
44:11,12;45:9;49:20;	42:11	6:3	might (3)	movement (1)
53:20;54:8;57:4	longer (3)	master's (1)	25:9;57:11,14	24:20
levels (5)	22:14;51:17,19	8:21	migrated (6)	much (6)
12:24;13:5,16;18:12;	longstanding (2)	material (10)	45:22,24;46:15;47:7,	11:16;19:17;24:25;
27:8	7:23;8:3	11:18;17:18;21:25;	21,24	31:11,13;34:22
license (4)	look (4)	24:23;25:11;29:24;	migrates (2)	must (1)
7:4,7;10:23;11:1	37:12;38:6;52:8;	30:23,25;33:14,23	46:25,25	55:10
licenses (5)	54:5	materials (1)	migration (2)	MVE (2)
9:9,10,11;11:6,17	looked (4)	30:1	46:2;48:7	13:21;27:2
lid (6)	10:4;25:1;38:2;	matter (6)	Miller (18)	
36:4;44:21;48:19;	56:12	5:13;28:10,12;53:2,	12:15;15:3,25;16:8;	N
49:2;52:2;54:4	looking (5)	3;55:25	18:13,14;21:24;26:1;	
lifetime (1)	17:2;23:10;26:4;	matters (1)	33:10;43:5,20;50:17;	name (2)
34:19	35:11;43:2	54:22	51:10,25;52:15;53:11;	5:4;8:6
likelihood (1)	lose (1)	MatWeb (1)	57:8,12	near (7)
39:25	51:14	30:2	Miller-Parrington (1)	14:11;21:16;48:19;
liner (1)	loss (2)	may (7)	22:17	49:2,6;50:5;52:1
54:9	48:2;50:1	5:24;13:9;17:19;	Miller's (17)	necessarily (1)
lines (3)	lost (1)	18:13;28:5;43:16;	19:25;20:8;26:7,12;	43:22
23:11;35:9;52:5	51:22	49:20	43:10,10;46:5;48:9;	neck (1)
liquid (58)	lot (2)	maybe (3)	49:9,11;52:13,23;	36:9
12:1,1,7,16,16,21,24;	39:4;41:11	15:5;42:18;55:22	53:15;54:21,24;55:12;	need (4)
13:5,16;14:11;15:14;	low (3)	MD (1)	56:7	11:24;12:12;40:11;
16:18;27:20;28:8,16;	34:18;45:8;53:8	6:6 man (20)	millimeter (5)	41:21
29:8,10;31:19;32:3,4,7,	lower (1) 54:8	mean (20) 8:17;15:5;18:2,25;	14:13;16:2;25:14;	needed (2)
10,12,13,15,22;39:22;	J4.0		29:18,20 millimeters (8)	9:14;41:13
43:6,21;44:2,24;45:5,6,	M	20:23;21:14;24:13;		neighborhood (1)
13,16,16,23;46:14,18;	171	25:3,13;26:25;30:22;	15:20;19:22,22,23;	10:19
47:6,7,10,11,21;48:3;	magnitude (4)	31:23,23;34:20;37:16; 49:24;51:20;53:20;	21:2;25:7,8,23	net (1)
500.1051.6 300.530.13 10.		47.24,31.20,33.20,	mind (1)	44:5
50:1;51:6,20;52:12,18;			52.15	novt (3)
53:1,9;54:6,8,12,14,20;	19:16,18;21:4;26:16	54:11;55:21	52:15 minutes (1)	next (3)
			52:15 minutes (1) 36:17	next (3) 31:10;36:14;52:6 Nice (1)

6:17	38:19;42:23;43:11;	38:2;42:14,15,22	photographs (4)	51:13;54:17
nitrogen (59)	44:13;45:3;47:1,1;	paragraph (1)	36:6;48:15,16;52:8	pretty (4)
12:1,7,16,17,21,24;	51:1,12;54:3,8,9,24;	17:12	physically (1)	9:9;16:21;34:17;
13:16;14:10,11;15:14;	57:10	Parrington (4)	11:7	37:16
16:18;26:19;27:20;	Only (6)	26:1;43:5,7,19	picture (1)	prevent (2)
28:8,17;29:8,10;31:19;	32:4;42:8;50:25;	Parrington's (1)	21:13	38:16;40:14
32:3,5,7,10,12,13,15,	51:4;55:11;57:4	34:12	piece (2)	primarily (1)
22;38:15;39:22;43:6,	open (4)	part (13)	18:4;37:18	8:12
21;44:2,5,24;45:5,10,	6:22;24:9;34:1;	6:25;18:25;19:1;	pin (1)	prior (1)
13,16,16,23;46:2,14,	44:12	20:14;24:11;25:19;	36:24	36:4
18;47:6,10,11,21,25;	opened (1)	32:23;36:1;46:19;	pipe (4)	probably (5)
48:2,3;50:1;51:6,20;	24:4	47:21;48:2;56:2,24	32:2;40:22,25;41:4	9:17;10:9;13:25;
52:12,18;53:1;54:3,12,	opening (1)	particular (4)	piping (1)	14:9;25:20
20;55:11	44:21	11:13;12:20;43:25;	41:8	problem (1)
Noreen (1)	operation (3)	53:5	place (4)	39:22
8:7	28:3;31:10,22	particularly (1)	5:12;36:12,17;38:1	problematic (1)
normal (2)	opinion (15)	31:6	places (1)	40:11
44:5;48:1	11:25;12:22;21:14;	parties (2)	17:4	procedure (2)
notes (2)	22:13;24:3;25:13,24;	5:17,19	plaintiff (1)	29:3,6
57:14,16	31:7;42:2;44:1,24;	partner (1)	5:21	proceed (1)
nowhere (2)	46:14,23;49:24;54:23	7:21	plastically (1)	5:25
21:16;38:17	opinions (3)	parts (1)	34:3	PROCEEDINGS (1)
Number (14)	25:11;49:15,23	15:7	plausible (2)	5:1
5:14;15:23;19:21;	opposed (2)	patient (1)	53:16;54:10	process (8)
21:1,18,19,22;25:17,	37:22;54:4	39:23	please (3)	14:4,8;17:24,25;
20;26:12;33:10;38:6;	opposite (1)	pay (1)	5:17,19;57:25	18:3;19:8,10;36:3
39:24;43:3	24:12	11:11	point (12)	processes (1)
numbers (3)	order (7)	paying (1)	11:2,15;12:2;27:17;	18:1
16:20;21:3;25:1	11:12;15:20;18:12;	11:16	31:24;32:21;39:1;	produced (2)
	19:22;21:4,8;25:14	pen (2)	40:21;41:14;45:12;	56:13,14
O	originally (1)	40:13,16	49:17;53:8	product (1)
	43:1	pens (1)	pointing (1)	10:1
o0o- (2)	ours (1)	42:18	34:23	products (1)
5:3;6:11	11:7	perfectly (1)	points (1)	8:1
Objection (3)	out (9)	41:4	37:18	profile (6)
14:19;31:12;46:8	7:13;15:1;38:20;	performance (3)	Popwell (6)	11:22,25;12:4,10;
objectively (1)	40:2;42:13;44:2;45:11;	28:16;31:21,24	47:14;49:14;50:20;	14:16;15:10
57:1	52:14:54:4	performed (1)	55:10,22;57:9	profiles (2)
oblivious (1)	outside (1)	48:9	port (4)	12:8;30:18
	52:17		13:20;14:3,7;52:16	
17:18		perhaps (4)		program (1)
observed (2)	over (2)	18:13;45:11,12;48:3	portion (1)	10:24
50:25;51:3	46:2;54:7	period (9)	45:14	project (2)
occur (1)	overload (2)	36:17,18;45:15,24;	position (1)	9:16;10:6
35:23	33:15,24	46:3,16;47:8;52:3;54:7	24:17	projects (1)
occurred (1)	own (4)	perpetuity (1)	possible (1)	9:14
36:1	11:3,6,7,14	11:8	41:1	properties (7)
occurrences (1)	owned (1)	personally (1)	possibly (1)	11:18;17:18;21:25;
13:14	9:22	7:17	38:9	29:25;30:23,25;51:15
occurs (1)		personnel (3)	post (1)	property (3)
29:9	P	49:12;56:19,25	29:5	14:18;15:12;24:23
o'clock (1)		PFC (4)	potential (1)	pros (1)
24:16	Pacific (4)	12:25;31:22;43:12;	57:12	39:25
off (15)	5:10,13;50:10,13	56:13	potentially (1)	proves (1)
10:12;30:17;33:17;	package (1)	PhD (1)	35:3	56:7
44:25;45:1;46:2,20;	7:16	8:22	poured (4)	provide (3)
47:2,8;48:1,7;50:9;	packages (2)	Philip (1)	45:5,7,17,19	8:8;10:16;22:18
	7:15;11:13	5:5	practices (1)	provided (2)
51:23;53:11;54:1			•	
once (1)	page (14)	phonetic (2)	37:10 Drobado (1)	29:25;30:7
24:5	17:1,2,5,11;22:23;	16:7;46:15	Prelude (1)	provides (1)
one (26)	23:1,7,11,14;35:5,9;	photo (1)	43:12	55:12
12:2;14:5;17:3,8,19;	37:1;42:25;43:2	36:18	presence (1)	providing (2)
18:8;20:9;23:7;27:12;	paper (10)	photograph (3)	55:18	43:5,20
28:21;29:17;33:8;	16:3,4,8,17,22;25:1;	36:9,15,21	pressure (2)	publication (1)
-	l .	l .	1	I

<u>eenter enioninon</u>			T	Beccinser 10, 2020
10:9	20:1,9;22:23;25:4;57:2	6:1	30:19,25;33:2;36:6,10,	set (2)
published (1)	rebutting (2)	remotely (3)	15;37:6,15;39:12;41:2,	6:1,10
17:14	21:15;25:13	5:12;6:3,4	17;43:9;47:15;48:22;	several (2)
	*			
pulling (1)	recall (6)	removal (1)	51:2;54:11;55:6	7:14;14:10
29:4	13:12,13,14;51:3,4;	36:4	role (1)	shape (2)
purposes (1)	52:9	removed (1)	56:24	38:23,24
16:21	receive (1)	35:24	rolled (1)	shaped (1)
put (10)	11:10	Repeat (1)	9:22	40:12
6:21;18:11;21:25;	received (1)	14:5	room (23)	sharp (1)
37:11,20;41:3,5,18;	20:3	report (17)	11:25;12:6,19;14:16;	34:17
42:5;51:12	recently (1)	6:21;10:5;12:17;	15:10,13;16:18;17:23;	shearing (2)
	20:3	14:15;15:19;17:1;20:1,	18:5,6,16,23;19:7,12,	24:11,18
Q	Recess (1)	9;21:8;22:24;23:14;	14;24:22;27:18;28:14,	shipped (1)
	50:11	25:4;35:6,15;37:1;	20;29:7,11;31:18;	18:10
quantity (1)	recollection (2)	42:10;57:2	32:20	short (1)
48:7	13:19;49:7	reported (4)	root (6)	36:17
quickly (6)	record (5)	44:10,12;47:14;	22:8;24:4,8,15;	Shorthand (1)
20:2,5,10,17;56:15,	10:12;33:17;50:9,13;	49:13	33:13,22	6:4
15	57:25	reportedly (1)	RPR (1)	shortly (1)
quite (3)	recorder (1)	52:23	6:3	9:11
18:5;29:2;46:5	27:1	reporter (6)	run (4)	show (2)
quote (2)	recreate (1)	5:24;6:4;10:11;	7:5,8,10;25:25	40:4,20
23:2;35:15	53:12	33:16,18;57:24	runs (1)	showing (1)
	redesign (1)	Reporters (1)	38:10	40:16
R	41:12	5:6	38.10	shown (1)
K	reduce (1)		S	30:3
(1)	41:9	reports (2)	В	
ran (1)		17:20;54:25	C (10)	shows (4)
43:11	reference (4)	request (1)	Same (10)	13:5,16;42:16;54:24
range (2)	6:23;15:24;30:1,1	57:25	6:19;15:25;21:4,22;	side (2)
29:20;36:25	referenced (3)	requesting (2)	30:2;35:8;38:9;42:15;	24:8,9
rapid (10)	16:4;17:4,5	10:11;33:16	54:7;55:4	significant (1)
43:6,21;44:2,5;48:1,	referring (1)	required (1)	samples (2)	19:24
12;51:24;54:1;55:15,	16:3	12:25	35:24;39:23	significantly (3)
18	reflections (1)	research (2)	San (1)	25:22;34:18;41:9
rapidly (2)	56:13	7:25;10:5	5:7	similar (3)
52:12;54:20	regard (3)	residual (1)	Saturday (5)	15:24;16:7;42:16
rate (10)	8:2;17:5;52:20	29:3	44:19;49:15;50:21;	simple (2)
44:5,16;46:22;48:1,	related (1)	restate (1)	51:7;56:9	37:20;42:3
6;51:24;53:14;54:25;	17:15	47:4	saw (3)	simpler (1)
55:6,13	relates (1)	result (2)	10:5;48:15,19	25:1
rates (1)	12:18	29:2;55:10	saying (3)	simplified (3)
52:20	relationship (3)	resulted (1)	40:9;51:3;57:10	38:25;40:4;42:21
rather (1)	7:23;8:3;22:18	45:10	scenario (3)	simply (1)
24:23	relative (3)	resulting (1)	12:8;29:14;52:10	40:20
reaches (2)	24:17,19;34:8	22:15	scientific (1)	simulated (1)
43:13,14	relatively (2)	results (2)	52:22	46:7
read (4)	25:12;41:5	25:21;53:13	seal (2)	single (3)
15:19;19:25;20:14;	released (1)	review (2)	48:13;51:14	29:13,13,15
33:19	9:21	20:6;31:2	sec (1)	situation (1)
realize (2)	relevant (1)	reviewed (1)	17:3	38:17
21:23;37:20	31:7	13:2	second (4)	six (3)
· ·	relied (2)	reviewing (1)	17:9;19:25;20:9;	28:2;31:10,22
really (7)		0 , ,		
20:17,24;25:18;	15:24;16:8	20:18	23:7	size (1)
28:20;30:6;54:22;57:7	relieve (1)	reviews (1)	section (1)	46:23
reason (6)	39:16	57:16	35:8	skimmed (1)
21:7;22:3;25:20;	relieving (1)	revise (1)	seep (1)	20:16
38:25;47:18;52:22	29:6	41:25	53:9	skin (1)
reasonable (1)	relying (6)	revision (1)	sense (2)	49:5
43:20	16:22,23;26:7;36:5;	42:8	19:2;57:6	slight (1)
reasonably (1)	42:14;56:2	right (31)	sentence (1)	41:23
47:16	remember (1)	5:18;7:1;9:6,19;	17:11	slightly (1)
rebuttal (9)	52:3	10:8;14:1;16:13;20:24;	separation (4)	22:12
6:21,25;14:15;17:20;	REMEMBERED (1)	28:8,22;29:1,17,17,18;	23:5,18,22;35:18	slower (2)
. ,				

-				
55:6,13	23:2,15;35:15;46:16	8:2	ten (1)	9:4
small (2)	steel (3)	sure (16)	13:22	took (6)
25:12;26:13	15:17;16:12;29:25	13:1,11;14:6;15:9;	tend (1)	14:21;18:18;36:17;
smaller (3)	still (6)	19:2;31:23;34:24;37:4;	20:21	38:1;48:15;50:16
18:12;19:12;20:22	14:9;25:22;34:14,14,	43:8,17;46:9,12;50:8,	tending (1)	top (10)
soft- (1)	17;52:7	19;55:3,5	24:8	11:23;12:5,10;14:16;
7:14	stopped (4)	surfaces (7)	ten-minute (1)	15:11;22:25;28:19,25;
software (11)	9:4,5,8;10:17	23:5,18,23,24;24:1,	50:4	49:10;52:1
		19;35:18		
7:4,15;9:9,10;10:23;	storage (1)	· · · · · · · · · · · · · · · · · · ·	tens (1)	topic (1) 39:6
11:6,11,13;14:25;15:1;	17:8	suspect (1)	11:12	
21:23	stored (1)	55:17	tensile (1)	top-off (2)
somebody (1)	53:1	swear (1)	24:15	14:4,8
57:3	straight (1)	5:24	term (1)	total (1)
sometime (2)	41:3	sworn (1)	34:8	36:12
9:11;10:19	straightforward (1)	6:8	terms (4)	tow (3)
somewhere (6)	37:17	system (1)	15:23;35:2;37:14,15	9:21,23;10:1
19:23;29:19;41:7;	strain (11)	41:8	test (1)	toward (2)
44:14;51:4,7	15:23;17:13;21:3,8,	_	51:11	24:15,16
sorry (4)	24;33:4;37:18,23;39:5,	T	testified (2)	training (1)
5:18;26:24;47:4,11	17,19		6:10;53:13	8:25
sort (2)	strain-based (1)	table (1)	testimony (11)	transcript (1)
46:6;52:17	33:1	16:9	36:20,23,24;44:17;	57:24
sound (1)	strains (1)	talking (6)	46:4,10;49:1,4,7;	triple (1)
10:7	40:5	27:19;29:12;35:8;	55:13;56:3	22:9
soup (1)	Street (1)	42:15,23;55:3	testing (15)	true (1)
54:11	5:7	talks (1)	18:17;46:5;48:9;	22:14
space (23)	strength (2)	16:17	49:9,12;50:17;52:1,13,	truth (4)
45:2,6,11,14,17,24;	33:14,23	tank (43)	23;53:15;54:21,24;	6:8,9,9;56:25
46:2,16,19,24;47:7,21,	stress (13)	12:16,19;13:3,21,21;	55:12;56:7;57:13	truthful (1)
24;48:3,4,8;52:18,19,	22:9;29:4,5;33:12,	14:3,3,7,7,10;19:1;	theirs (1)	47:19
25;54:4,13,16,18	21;34:15,21;39:4,12,	27:10,17;28:13,19;	16:9	try (1)
speak (1)	17,19;40:5;41:16	30:7;32:13;35:24;36:4,	theory (2)	15:6
5:18	stresses (10)	20;38:11;41:12;42:12;	27:21;50:20	trying (3)
specializes (1)	9:24;16:5,24;21:15;		there'd (1)	35:11;42:9;57:1
7:18		44:3,6,12;45:8,9,12;	34:1	
	22:5,15;37:19,22;41:9;	46:4,7,24;47:10;49:2,5,		tube (37)
specific (3)	42:6	16;52:11,25;53:8;55:2;	thereupon (1)	11:23;12:4,10,20;
13:13;26:11;36:25	stretch (1)	56:9;57:4,13	6:9	14:17;15:11,15;16:10;
specifically (1)	40:10	tanks (1)	thermal (20)	17:23;18:19;19:7;
8:4	strike (1)	17:8	11:18,19;15:16,21;	20:20;25:23;26:20;
spent (1)	45:4	technology (1)	16:5,11,15,16,24;	27:21;28:8;30:16;32:7,
41:11	structural (1)	7:20	17:13,15;19:11,20;	11,12,15,19,23,23;
spoiled (1)	8:22	telling (5)	21:3,8;22:12,21;26:8,	33:8;37:21,22,24;
48:10	subsequent (5)	33:7;41:2,4,17;56:25	10;42:24	38:18,25;39:9,12;
spoiling (1)	23:3,10,16;35:12,16	temp- (1)	thermos (2)	40:10,12;42:5,7,10
51:10	substantial (1)	12:1	54:6,10	tubes (3)
staff (3)	34:14	temperature (61)	thermoses (1)	38:15;42:17,20
43:12;53:13;54:25	substantially (1)	11:20,22,24;12:1,4,7,	54:7	tubing (4)
stainless (6)	25:7	7,8,10;13:20;14:1,2,6,	thought (1)	28:18;30:6;38:8;
15:17;16:12,18;	suggest (1)	15,16,17;15:10,10,11,	52:4	41:19
17:16;29:25;30:24	36:2	14,17;16:12,18;17:19,	thousands (1)	Tuesday (4)
Standard (3)	suggested (1)	23,24;18:5,6,16,16,23,	11:12	5:9;6:1;36:14,22
5:11;50:10,13	37:6	23;19:7,8,12,13,14,15,	three (3)	turn (2)
stands (1)	suggesting (1)	21;22:1;24:22;27:18;	9:17;52:4;57:5	22:23;37:1
52:14	41:18	28:14,20;29:7,11;30:9,	throughout (1)	two (16)
start (1)	Suite (1)	18,23;31:19,20;32:3,	36:18	11:6;15:7;24:18,19;
40:8	5:7	20,20,24;33:3,8,9;	times (1)	27:13,13;37:18;42:17,
started (1)	Sunday (3)	37:19;53:23;54:17	13:9	18,20;46:21;47:1;
24:4	44:22;50:24;51:8	temperature-dependent (3)	tip (7)	51:25;54:7;57:5,11
starting (1)	super (1)	14:18;15:12;24:23	34:2,4,13,15,20;35:4,	31.23,34.7,37.3,11
36:3	20:25		4	U
		temperatures (9)	= -	U
starts (1)	supported (2)	12:2,20,21;14:12;	today (1)	
53:11	41:14,15	15:14;16:19;18:20;	5:9	underfilled (2)
state (4)	supporting (1)	29:8;51:18	told (1)	56:1,5
	1			1

CENTER LITIGATION			T	December 13, 2020
underfilling (1)	28:22	wrong (2)	15th (1)	13:3;23:14;35:24;
56:9		26:2,3	5:9	36:8,20;44:3,6,22;49:2,
	visually (1)	20:2,3		
unique (1)	40:17	₹7	1st (1)	5;56:9
37:25	vitae (1)	Y	49:22	4th (4)
unlike (3)	10:4		_	20:10;36:13,21;
15:1;22:17;49:8	voice (2)	year (1)	2	50:24
up (15)	5:17,19	11:13		
19:4;23:9;24:9,11;	<u> </u>	years (6)	2 (7)	5
29:4;32:16,23;33:7;	\mathbf{W}	8:23;9:17;28:3,16;	19:22,23;25:22;	
35:9;37:12;39:12;41:3;		31:10,22	29:18,18,19,19	5 (6)
51:10;54:8;57:20	wall (4)	yield (3)	2.0 (3)	22:23;23:1,11,14;
upfront (1)	13:21;14:3,7;52:25	33:14,23;35:4	21:2;25:8,17	35:5;42:25
25:3	warehouse (1)		2.4 (2)	33.3,42.23
	53:21	yielding (1)		6
upon (7)		34:1	21:1;25:8	U
15:13,24;16:8;22:21;	water (1)	77	2.5 (6)	5 00 (1)
26:7;54:17;56:2	48:24	Z	14:13;15:20;19:22;	6:00 (1)
upward (1)	way (14)		21:1;25:7,17	24:16
24:7	21:6,10;22:3,3;24:2;	Zeman (8)	2:30 (2)	6245 (1)
use (7)	26:11;31:14;37:21;	5:20,20;14:19;31:12;	44:18;51:7	6:4
15:25;18:11;21:7;	38:9;39:15;40:11;45:3;	46:8;50:3,7;57:23	2003 (1)	6th (2)
33:3;40:13;42:17;	49:10;54:5	Zoom (1)	10:7	36:14,22
45:19	weigh (1)	5:13	201 (1)	,
used (10)	39:24	3.13	5:6	7
14:14;15:3,21;18:21;	weld (21)	0	2010 (1)	,
24:22;25:19;30:13;	13:21;14:3,7;22:8;	U	10:20	7 (9)
33:1;34:16;40:19		0020 (2)		
	23:6,19;24:4,9,16;	0038 (3)	2013 (2)	17:11;37:3,5;38:6,
using (7)	28:21,24,25;29:5,5;	17:14;21:9,9	13:11;27:8	13;40:18;41:10,25;
7:17;8:1;9:25;14:17;	32:2;33:13,22;35:19;		2014 (2)	43:2
15:11;39:1,11	39:14;41:9;52:11	1	13:11;27:8	
utilized (1)	welded (2)		2019 (1)	8
15:25	18:7;31:17	1 (1)	39:7	
utilizing (1)	welding (1)	39:24	2020 (4)	808 (2)
9:13	29:3	1.9 (3)	5:2,10;6:2;23:14	13:21;27:2
-	weld's (2)	19:23;21:2;25:8	22 (7)	, , , ,
${f V}$	31:21,24	10:04 (2)	44:22,25;46:25;47:3,	9
·	what's (3)	5:10;6:2	6,10;55:7	
vacuum (31)	14:2;16:22;17:7	11 (15)	223 (2)	90-degree (1)
45:2,6,11,14,17,24;	When's (1)	12:15,25;13:6,10,17;	6:13,20	38:10
46:2,15,19,24;47:7,21,	9:15		22-hour (3)	94111 (1)
24;48:2,3,4,7,10,13;	whole (3)	26:19,19;27:9,24;28:3,		
		7;29:10;32:16,23;37:1	45:15,24;46:16	5:8
51:10,14,14,22;52:16,	6:9;20:16;41:12	11:06 (1)	2nd (1)	
16,19,25;54:4,13,16,18	within (1)	50:10	44:19	
value (1)	52:4	11:15 (1)		
20:21	witness (11)	50:13	3	
variables (1)	5:25;6:7;10:13;	12:20 (2)		
55:21	14:20;22:25;31:13;	44:22;51:8	3 (2)	
varying (3)	33:18;35:7;37:2;57:19,	13 (1)	17:2,5	
14:16;15:10;22:12	21	51:6	3:18-cv-01586-JSC (1)	
versus (1)	word (1)	13.5 (1)	5:14	
48:7	45:19	55:22	30 (2)	
vertical (2)	work (12)	13.8 (1)	8:23;43:3	
41:6,7	6:25;7:22;8:4,17;9:5,	47:17	304 (7)	
*				
vessel (2)	12,14;10:14,17;42:13;	13-plus (1)	15:17;16:12,17;	
24:7;37:11	43:10;56:12	44:13	17:15;29:25;30:24;	
vessels (1)	1 1 (2)	14 (5)	31:1	
, ,	worked (3)			
42:24	7:9;8:6;9:15	44:11,18;47:11;55:7,	375 (1)	
7 7	7:9;8:6;9:15 working (5)	44:11,18;47:11;55:7, 23	5:7	
42:24 via (1) 5:12	7:9;8:6;9:15	44:11,18;47:11;55:7, 23		
42:24 via (1) 5:12	7:9;8:6;9:15 working (5)	44:11,18;47:11;55:7,	5:7	
42:24 via (1) 5:12 VIDEOGRAPHER (5)	7:9;8:6;9:15 working (5) 7:15;8:13,23;9:20; 38:21	44:11,18;47:11;55:7, 23 14.2 (1) 47:17	5:7 3rd (2)	
42:24 via (1) 5:12 VIDEOGRAPHER (5) 5:4,5,23;50:9,12	7:9;8:6;9:15 working (5) 7:15;8:13,23;9:20; 38:21 world (3)	44:11,18;47:11;55:7, 23 14.2 (1) 47:17 14-inch (1)	5:7 3rd (2) 49:15;50:21	
42:24 via (1) 5:12 VIDEOGRAPHER (5) 5:4,5,23;50:9,12 videotaped (1)	7:9;8:6;9:15 working (5) 7:15;8:13,23;9:20; 38:21 world (3) 37:11,13,25	44:11,18;47:11;55:7, 23 14.2 (1) 47:17 14-inch (1) 50:22	5:7 3rd (2)	
42:24 via (1) 5:12 VIDEOGRAPHER (5) 5:4,5,23;50:9,12	7:9;8:6;9:15 working (5) 7:15;8:13,23;9:20; 38:21 world (3)	44:11,18;47:11;55:7, 23 14.2 (1) 47:17 14-inch (1)	5:7 3rd (2) 49:15;50:21	